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[Authors alone are responsible for the contents of their respective Papers.]

SECRETARY'S NOTES.

1. The following officers joined the Institution during the month of April :—

Lieutenant G. E. du P. Moore, R.G.A.
Captain W. G. C. Hall, 1st V.B. Royal Sussex Regiment.
Lieutenant G. M. Ormerod, R.H.A.
Lieutenant R. F. Gross, South Wales Borderers.
Sub-Lieutenant M. F. F. Wilson, R.N.
Major W. R. Arnold, Dorsetshire Regiment.
Lieutenant J. B. L. Monteith, Gordon Highlanders.
Major T. E. Compton, late Northamptonshire Regiment.
Second Lieutenant P. L. E. Walker, 7th Hussars.
Colonel T. Simpson, late 3rd Battalion Royal Irish Fusiliers.
Lieutenant R. B. Bergne, Leinster Regiment.
Colonel E. E. Carr, C.B., Staff.
Captain G. A. Elliot, Royal Irish Regiment.

(No officer of the Royal Naval Reserve or Imperial Yeomanry joined the Institution during the month.)

2. The date of the RECEPTION has been fixed for Wednesday, 27th June, at 9 p.m. His Royal Highness the President hopes to be present. The entertainment will be similar to that of last year, but the programme has not yet been definitely arranged. The dress will be evening dress with decorations and medals. Members of the Institution have the privilege of introducing two guests (ladies or gentlemen) by ticket. The price of tickets for both members and their friends will be five shillings each (to include refreshments). The tickets, being limited in number, will be issued in order of application. Application, with remittance, should be made to the Assistant Secretary, Royal United Service Institution, Whitehall, S.W.

3. By a regretted omission, the Frontispiece of the April JOURNAL, consisting of the Colours of the City of London Trained Bands and Auxiliaries, A.D. 1642, was not acknowledged as being reproduced from the late Colonel Walton's famous manuscript work.

4. The two Special Courses of Lectures by Doctor T. M. Maguire, on the Military History Subjects for the May Promotion Examinations have been completed. Sixty officers availed themselves of the opportunities afforded them. The Secretary hopes that this attendance may be considered as satisfactory. The Council hope to hold a further Course in the autumn.

5. The Waterloo Model in the Museum has lately been thoroughly overhauled and cleaned. To enable visitors to better see the plan, electric light has been introduced into the case, and magnifying glasses have been placed at the most interesting points of view.

6. A complete collection, showing both obverse and reverse, of all the Naval and Military Medals (with their full complements of Clasps) struck at the Royal Mint up to the present year has recently been added to the Museum. It consists of:—

1. Waterloo, 1815.
2. Army General Service (Peninsula), 1793-1814, 25 clasps.
3. Navy General Service, 1793-1840, 9 clasps.
4. First Burma, 1824-1826.
5. India General Service, 1799-1826, 21 clasps.
6. China, 1842-1860, 6 clasps.
7. First Cabul, 1842.
8. Second Cabul, 1842.
9. Jellalabad, 1843.
10. Scinde, 1843.
11. Sutlej, 1845-1846, 3 clasps.
12. Punjab, 1848-1849, 3 clasps.
13. Second India General Service, 1852-1895, 23 clasps.
14. South Africa, 1853-1879, 6 clasps.
15. Crimea, 1854-1856, 5 clasps.
16. Baltic, 1854-1855.
17. Indian Mutiny, 1857-1858, 5 clasps.
18. Abyssinia, 1868.
19. New Zealand, 1845-1866.
20. Canada, 1866-1870, 3 clasps.
21. Ashanti, 1874-1894, 5 clasps.
22. Afghanistan, 1878-1880, 6 clasps.
23. Egypt, 1882, 2 clasps.
24. Egypt, 1884-1889, 11 clasps.
25. Khedive's Star, 1882-1889.
26. North-West Canada, 1885, 1 clasp.
27. Sudan, 1898.
28. Sudan (Bronze).
29. Khedive's Sudan, 1890-1902, 11 clasps.
30. West Africa, 1890-1900, 17 clasps.
31. Central Africa, 1904, 1 clasp.
32. Third India General Service, 1895-1893, 6 clasps.
33. Second Ashanti, 1896.
34. Uganda, 1897-1899, 4 clasps.
35. Uganda (Bronze).
36. Cape of Good Hope, General Service, 3 clasps.
37. China, 1900, 3 clasps.
38. China, 1900 (Bronze).
39. South Africa, 1899-1902, 26 clasps.
40. South Africa (Mediterranean, Militia Medal).

41. South Africa (Bronze).
42. South Africa (King's Medal), 1901-1902, 2 clasps.
43. Third Ashanti, 1900, 1 clasp.
44. East Africa General Service, 1900-1904, 14 clasps.
45. East Africa General Service (Bronze).
46. Fourth India General Service, 1901-1902, 1 clasp.
47. Tibet, 1903-1904, 1 clasp.
48. Royal Navy, Conspicuous Gallantry.
49. Distinguished Conduct in the Field (Queen's), 7 clasps.
50. Distinguished Conduct in the Field (King's), 3 clasps.
51. Distinguished Conduct in the Field (Cape of Good Hope, Queen's).
52. Distinguished Conduct in the Field (Cape of Good Hope, King's).
53. Meritorious Service (Honble. East India Company).
54. Meritorious Service (Queen's).
55. Meritorious Service (King's).
56. Meritorious Service (Cape of Good Hope, Queen's).
57. Meritorious Service (Cape of Good Hope, King's).
58. Meritorious Service (India, Queen's).
59. Meritorious Service (India, King's).
60. Royal Navy, Long Service and Good Conduct (William IV.).
61. Royal Navy, Long Service and Good Conduct (Queen's).
62. Royal Navy, Long Service and Good Conduct (King's).
63. Royal Navy, Ability and Good Conduct (Engineers).
64. Army, Long Service and Good Conduct (Honble. East India Company).
65. Army, Long Service and Good Conduct (Queen's).
66. Army, Long Service and Good Conduct (King's).
67. Long Service and Good Conduct (India, Queen's).
68. Long Service and Good Conduct (India, King's).
69. Long Service and Good Conduct (Cape of Good Hope, Queen's).
70. Long Service and Good Conduct (Cape of Good Hope, King's).
71. Militia Long Service and Good Conduct.
72. Imperial Yeomanry Long Service and Good Conduct.
73. Volunteers, Long Service (Queen's).
74. Volunteers, Long Service (King's).
75. Volunteers, Long Service (Colonial, Queen's).
76. Volunteers, Long Service (Colonial, King's).
77. Best Shot in the Army.
78. Arctic, 1818-1855.
79. Arctic, 1876.
80. Antarctic, 1902-1904, 1 clasp.
81. Antarctic, 1902-1904 (Natives).
82. Shooting Medal, Royal Navy.
83. Transport, 1899-1902, 2 clasps.

N.B.—As regards the Army General Service (Peninsula) Medal, the total number of clasps should be 29, but four of these could not be supplied. In the case of the Naval General Service Medal, the total number of clasps should be 230, but of this number 222 were for Fleet, Ship, and Boat Actions, and were not issued from the Royal Mint.

The following Medals, having been struck by the Indian Government, are not included in the above collection:—Ghuznee, Jellalabad (Mural Crown), Maharajpore Star, Puniar Star, and Roberts's Star.

7. The following additions have been made to the Museum :—

- a. Insignia of the Prussian Order of the Iron Cross. The Order was instituted on 10th March, 1813, by King Frederick William III., but was modified on 19th July, 1870, by King William I. It possesses three classes or grades. The Riband of the Grand Cross is worn over the shoulder; the other two classes, *à la boutonnière*. It has a black riband with white border for military distinction, and a white riband with black border as a civil award. *Lent by Colonel Lonsdale Hale.*

- b. The State Uniform of a Tartar General, a Manchu Mandarin of High Rank. It is about 100 years old. The helmet possesses two plumes, one of painted hawk's feathers for summer use, the other of sable-tail for winter use. These costumes are becoming very rare, and are consequently of considerable value. *Deposited by Major-General V. Hatton, C.B., Commanding the Troops, Hong Kong.*

- c. A Naval Night-glass, as used up to about the year 1840. By means of it a very large area is brought within view.

Given by Admiral J. F. L. P. Malet.

- d. An Entrenching Spade with Folding Handle, invented by Commander E. B. Boyle, R.N. The Spade is heart-shaped, slightly bent inwards, $5\frac{1}{2}$ inches across the top and 9 inches deep to point, and made of hardened steel. The handle is a piece of steel with a circular knuckle hinge, working on a steel bar in the middle of a small square space cut out of the top of the Spade. The upper part is split to receive a short wooden handle, as in an ordinary spade. When the handle is upright for work, a projection below the knuckle hinge takes against the back part of the spade, and the underneath part of the knuckle takes on the Spade. A loose sliding steel ring turning off a stud keeps the handle upright; being loose, dirt is easily wiped out, therefore it cannot jam.

Given by Commander E. B. Boyle, R.N.

- e. A Bar Shot fired into H.M.S. "Asia" at the Battle of Navarino, 1827.

Given by Colonel A. E. Codrington, C.V.O., C.B., Commanding the Coldstream Guards.

- f. Three Plans of Actions between British and French Fleets, including one of the 1st June; also an Original Drawing showing the positions of the two Fleets, preceding and during Lord Howe's action of the 1st June; also several Plans, some of them contemporary ones, of Land Battles, including the Campaign of Marshal Suchet.

Given by Colonel A. E. Codrington, C.V.O., C.B., Commanding the Coldstream Guards.

8. *Extra Lecture.*—"The Argentine Republic and its Neighbours," by Major-General Sir A. B. Tulloch, K.C.B., C.M.G. The Chair will be taken by His Grace the Duke of Argyll, K.T., G.C.M.G., G.C.V.O. Date of this lecture will be notified later.

THE USES OF CAVALRY AND MOUNTED INFANTRY IN MODERN WARFARE.

By Brigadier-General E. C. BETHUNE, C.B., p.s.c.

Thursday, 22nd February, 1906, at 3 p.m.

Lieut.-General Sir J. D. P. FRENCH, G.C.V.O., K.C.B., K.C.M.G.,
Commanding-in-Chief Aldershot Army Corps, in the Chair.

THE intelligent use of mounted troops with an army has such vital and far-reaching effects on the strategy and tactics of a campaign that too much thought cannot be given to the matter.

It is unfortunate that late campaigns have not thrown very much light on the much disputed question of the utility of cavalry under modern conditions.

In the war of 1870, the Prussian Cavalry had all the best of it, and they, though by no means making the best of the cavalry arm, had no opposition from the French, who, forgetting the traditions of the Napoleonic Wars, and following the old tactics of the days of Marlborough, kept their cavalry in masses in readiness for shock action, neglecting almost entirely the essential duties of reconnoitring and scouting.

In South Africa we may say that the cavalry on many occasions were unsatisfactory. But there the cavalry, owing to their small numbers, had not only the arduous duties of scouting to perform, but might be called upon at the close of a long day to make a charge with tired horses, and men unable to take full advantage of the mobility of their arm.

In the late Russo-Japanese War, both Russians and Japanese missed opportunity after opportunity.

A careful study of late campaigns will, I think, show us that many opportunities were missed for cavalry action, which, if taken full advantage of, might have had far-reaching results.

Cavalry is an expensive arm to keep up, and unless we are going to have full value out of it for our money, it would appear better to abolish it altogether.

I assume that the value of a large force of cavalry with a modern Army is recognised by us, in as great degree as it is recognised by all other military nations, and that it is only that all-important question of pounds, shillings and pence that prevents us in our Army having the proper proportion of cavalry; I need not, therefore, insist too much on the value of cavalry in modern warfare; I will only try to demonstrate how the arm, which we alone of all Continental Powers possess, namely, the mounted infantry, can be best used to supplement and support our existing cavalry.

I am thoroughly aware that the subject of the relative values of cavalry and mounted infantry was carefully gone into and discussed some few years ago, but the whole matter was then in a nebulous state, and nothing of a practical nature could be brought forward in defence or otherwise of mounted infantry; but we have now passed the academic stage of the question and can look on it with the experience gained in the last few years, an experience gained from practical use of mounted infantry in war.

In addition to this, I think that the tendency then was to consider the question from a point of view of cavalry *versus* mounted infantry. I should like to lay the matter before you to-day, rather from the standpoint of cavalry *plus* mounted infantry. Anyhow, I may claim to be considered impartial in this matter, as I have served in the infantry, have raised and commanded a regiment of mounted infantry, and have also served in and commanded a cavalry regiment and a cavalry brigade.

I propose to set forth my views to-day, as shortly and as simply as possible, without any references or examples, hoping that it may lead to a discussion, which will bring us a step forward on the road to more complete knowledge on the subject.

Unfortunately, the new arm, if I may so call it, the mounted infantry, which has been introduced into our Army, has induced a great many persons to think, that there is less necessity for cavalry than ever, and that in fact the *rôle* of cavalry should be turned into that of mounted infantry. It is, I contend, quite conceivable that there may be room for both, and it seems better business to try how the two branches of the mounted service can work together, rather than to waste time arguing about their respective merits.

In my opinion, mounted infantry should be a source of strength to the cavalry, rendering a combination of the two with horse artillery an independent fighting force.

In my lecture to-day I propose to suggest to you, what, in my opinion, is the proper *rôle* of each arm, each being the complement and supporter of the other. To make this clear to you, I will set forth what I think should be the duties of cavalry; what should be the duties of mounted infantry; and finally, how they can mutually co-operate during a campaign, omitting all questions of Royal Horse Artillery, as that would widen my subject unduly.

The duties of cavalry are four-fold; they must cover the front and flanks of the army with an impenetrable screen, their scouting must be energetic and bold even to rashness. By an effective performance of these duties, the cavalry can, not only deny to the enemy any chance of finding out our dispositions, but at the same time can find out as much as possible of the movements and dispositions of the enemy.

Secondly, they must have such cohesion and discipline, that on occasion they will be able to make use of shock tactics should the opportunity present itself.

Thirdly, there should be sufficient cavalry to operate in large bodies wide on the flanks, to threaten the flanks and rear of the enemy. The very fact of an unknown and highly mobile force operating on his flanks and threatening his communications, must be a disturbing factor in his appreciation of the military situation, and will probably cause him to neutralise many more troops on his lines of communications than he otherwise would do.

Fourthly, there must be cavalry, fresh and ready to pursue the enemy if defeated.

There must be sufficient cavalry under an independent leader to carry out all these duties, the screening duties of the main army being carried out by a force specially detailed, and the remainder forming part of the mobile troops, whose duties are to threaten the enemy's flanks and rear, and force their way through the opposing cavalry, and so discover the secrets that lie behind.

I am in favour of doing away with divisional cavalry, as it exists at present, the orderly duties of which can be equally well carried out by cyclists and mounted infantry, thus setting free one regiment per army corps to perform its legitimate duties.

The screening duties would be performed by cavalry told off for the purpose by the officer commanding cavalry, and these troops could be changed from time to time as occasion offered, so as to give everyone a turn. And in using the term screen, I do not mean a fan covering the army at a fixed distance in front of the main army, but a force of cavalry, which would be the feelers or *antenna* of the army, and give timely warning of any danger threatening the column. This was very ably pointed out by Colonel Gough, in the paper read at this Institution a few months ago; but according to my idea the troops composing the screen should be quite distinct from the striking force, which might, on occasion, have to make a dash, which would land it far from the main army.

It must be remembered, however, that the enemy's cavalry will, or should, be, actuated by the same ideas, and will have precisely the same object in view. In order, therefore, to be able to circumvent their dispositions, we must endeavour by all means in our power, to make our cavalry arm as efficient and mobile as possible. And, as a machine without a head or mainspring is of little value, our cavalry leaders must be the very best men that the country can produce. A cavalry leader, to be of any use, must be a good, bold horseman; he must know exactly what his horses are doing and can do; he must have a quick eye for country; and be prompt to seize fleeting tactical opportunities, and make the most of them when they present themselves. In my opinion, with cavalry the leader is everything; if he is confident in himself, and in his troops, he will infuse his spirit throughout his command. If he hesitates or lacks decision, he will, however good the troops composing the force may be, very soon reduce them to his own mental state, and they will lose three-quarters of their fighting value. This applies to all fighting troops, but doubly so to cavalry, as their opportunities must be seized in a moment.

In order to breed such leaders, the cavalry officers, commanders of regiments, squadron and troop leaders, should be of the very best quality, and the standard of qualifications should be as high as possible. Quickness and self-reliance, which only come from complete knowledge, should be fostered and encouraged.

The rank and file should be equally good of their kind.

Complete knowledge on the part of the cavalry leader, means the understanding of war in its fullest sense. Such a leader must be able to read the symptoms which reveal themselves of the hostile movements visible or semi-visible in the "fog of war." Cavalry leaders must be thinkers, and know the strategical work that lies before the hostile army, as well as before their own. Only, if able to do this

owing to previous thought and study, will they read correctly the signs and portents in the campaign. It is the probable lowering of the mental power that makes so serious the lowering the standard of entry into the cavalry.

As regards the training of the cavalry soldier, he must be thoroughly trained as a cavalry soldier, and understand that he and his horse, and his weapon, together, form the cavalry arm. The knowledge that he has complete mastery over his rifle will double his value when detached from the main body, and enable him to hold his own for a time in a fight with the opposing infantry. Accurate shooting, principally at long ranges, must therefore form an integral part of the cavalry soldier's training. But this portion of the training must not be allowed to weaken his spirit and dash; he must be taught and thoroughly believe, that he is most effective when on his horse and armed with the *arme blanche*. Whether the lance or sword is to be the principal weapon of shock action, is a question that can only be decided by actual experience in war. Personally, I think that the lance, wielded by a lancer, expert in the use of his weapon, and thoroughly master of it, is far superior to the sword, both in its moral effect, and its actual effect; its only drawback, of course, is, that for dismounted work it is somewhat in the way. For smaller patrols it would be invaluable, in cases where hostile patrols meet suddenly and cannot dismount to fire. The musketry training of mounted infantry should be precisely that of infantry.

We will now turn to the training of mounted rifles or mounted infantry. I accept the definition of the mounted rifleman as being a horseman and an expert shot, and capable of performing all the duties of cavalry, with the exception of shock action.

Such are our Imperial Yeomanry and the numerous Irregular Horse maintained by our various Colonies. But as these will not be immediately available for use on the mobilisation of a force for war, we will pass to the only other mounted arm we should have immediately available, namely, the mounted infantry. In the short time at my disposal, I am not able to give details of training for mounted infantry, but I would only premise that the mounted portion of their training should be as short as possible compatible with efficiency. The tendency of the Englishman, when mounted on a horse, is to assimilate himself more and more to cavalry, and the further his education and training go in the direction of cavalry, the further he gets from efficiency as a fighting infantryman.

The uses of mounted infantry are three-fold: Firstly, to form a mobile reserve for the general officer in chief command, who can apply them quickly at any given spot during the fight; secondly, to supplement and support the independent cavalry; and thirdly, to be able to take over the screening duties from the cavalry at a pinch. No. 1 is obvious and requires no special comment; it is therefore, to No. 2 that I should like chiefly to direct your attention.

In some Continental Armies it has been thought that machine guns could take the place of men in the field, but I do not think that this theory could be sustained under all circumstances, and our mounted infantry should be far more efficient as a support to cavalry than machine guns. It has been argued so often that cavalry should be altered in its training, so as to assimilate it to mounted

infantry, that it seems worth while to consider for a few moments the duties which have to be carried out by mounted troops, call them cavalry, mounted infantry, or mounted rifles, as you will, and then see what class of men and horse is most suitable for these duties. The screening and reconnoitring duties require special and highly technical knowledge. The stamp of horse necessary to cover the distances required must be a good one, and its height should not be less than 15.2 or 15.3. This height is also required to enable horses to have sufficient stride to gallop on occasion. Now the very fact of this horse being 15.2 hands, and more, makes it harder for a man to mount and dismount quickly, and the difficulty of keeping led horses quiet when they are mettlesome and high-spirited is much increased. On the other hand, the class of cob which is most suitable for mounted infantry, is, as a rule, quieter than a cavalry horse and far easier to mount and dismount from. Therefore, it follows, that if all our mounted troops are mounted on well-bred and galloping horses, their efficiency when called upon to fight dismounted would suffer. On the other hand, if we mount them all on cobs from 14.2 to 15 hands, efficiency, when they are called upon to move fast, will also suffer. It seems rational, therefore, to suggest that a portion of the troops should be mounted on horses suitable to move rapidly, and for a portion to be mounted on cobs, which will not be required to cover such long distances, but which will be perfectly capable of carrying their riders trained to fight as infantry soldiers in rear of the quicker-moving troops, and ready to seize tactical positions, and hold them strongly in support. And so our mounted troops fall naturally into two groups; the highly-trained horseman the cavalry soldier, and the equally efficient, but less highly specialised mounted infantryman. In the time available for the training of the mounted soldier, I do not think that he can be taught more than to ride; to make the best of his mount; to take care of it on the march and in camp; and to look after his saddlery. This is, of course, in addition to his outpost and scouting duties. This is but the commencement of the training of the cavalry soldier. Unfortunately for us, in our Army we have so few mounted troops that the cavalry and mounted infantry have often to be used for the same purposes, to the detriment of both.

On several occasions in the late Russo-Japanese War, the Russian cavalry attacked the Japanese in villages dismounted; they drove them out of the villages or from positions which they had taken up, with their rifle fire, but by the time they had mounted and gone in pursuit, the Japanese had had time to take up another position, and the work had all to be done over again. Now, had the Russian cavalry been supported by a force of mounted infantry, they could have dismounted in the first instance and held the enemy with their fire; meanwhile, the mounted infantry would have come up, relieved the cavalry, and commenced an organised attack on foot, and the cavalry would have mounted and awaited the moment to attack when the Japanese were pressed out from the position and commenced their retirement. Thus each arm would have performed the duties it was best suited for, and the co-operation would have been attended by the most excellent results. It may be said: "Why should not cavalry supports have been equally available to carry out the duty of the attack, a portion of the force remaining mounted?" That is perfectly true; but it would be making use of a force highly trained

in other directions for duties which could be better performed by infantry.

I propose, therefore, to state my case as follows:—

We have not in our Army enough cavalry for our needs in war, therefore, to get proper cavalry effect we must support cavalry with infantry, to gain the proper strategical and tactical value; these, however, cannot move fast enough to be of any support to cavalry. We must, therefore, by some means or other, carry our infantry quicker than they can walk. They can be transported in carts or on mules, as suggested by General Sir C. Egerton in his notes on Colonel Kenna's report on the mounted infantry in Somaliland. As a *point d'appui* for cavalry, infantry are far better than cavalry, owing to their better shooting and better style of fighting on foot.

However, by mounting our mounted infantry on ponies, we gain a still further advantage, namely, that the mounted infantry can, in the absence of the main cavalry force, take over the scouting and reconnoitring duties of the Army. I contend then, that our mounted infantry, used as I proposed, is a source of great strength to our cavalry, the two arms in combination with horse artillery being absolutely self-supporting and independent.

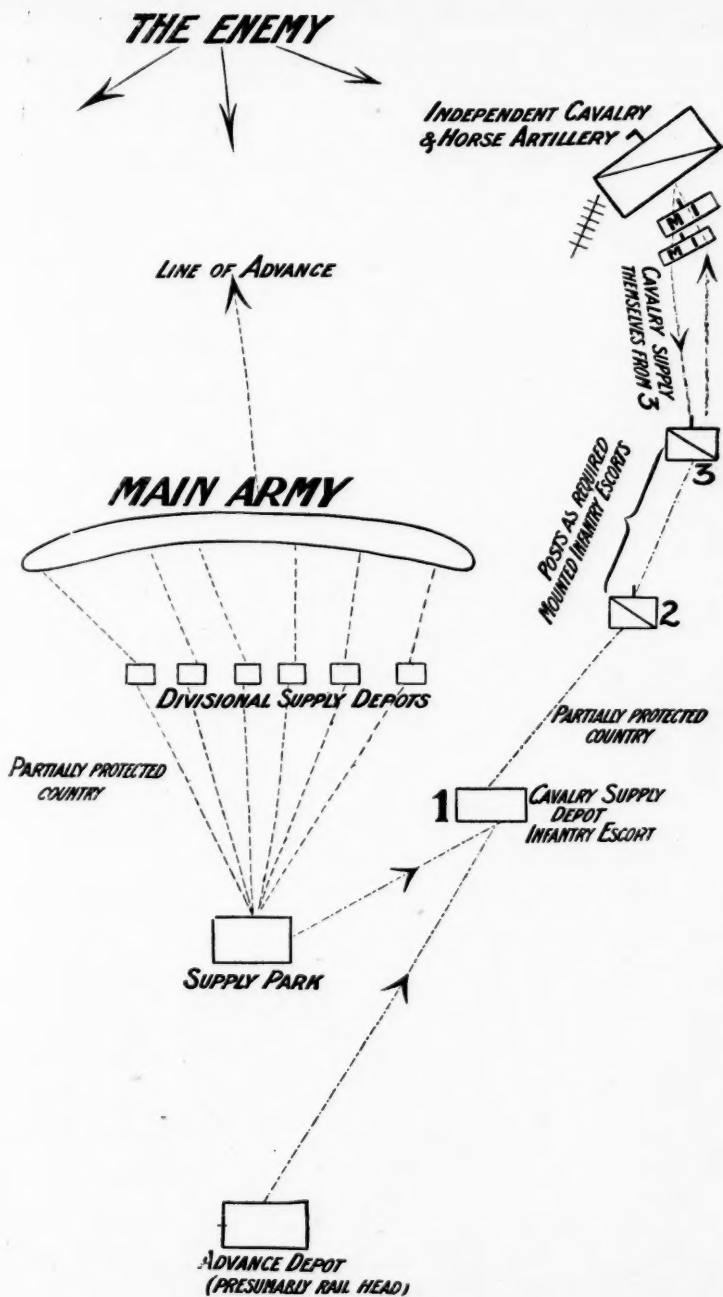
To carry this idea to its logical conclusion, we should have to add to mounted infantry, engineer troops for bridging purposes and demolition; but what we should gain on one hand by so doing, we should lose on the other, by hampering our cavalry forces, which should be absolutely mobile, with wheeled transport. I would, therefore, stop short at the cavalry, mounted infantry, and horse artillery.

The question of supplies of food and ammunition must also enter largely into the employment of cavalry and mounted infantry in the manner I have endeavoured to set forth. If it is difficult to supply a main army in the field, how much harder must it be to supply an extremely mobile force, such as I am speaking of to-day? But that it is not impossible I will endeavour to show. It is not wise for a force of any size, such as a cavalry division, to operate in an enemy's country and expect to live on that country. In most European countries, it would be possible to supplement our rations by supplies taken *en route*, but a certain amount of supplies must be carried to render a force independent.

Condensed food, tabloids, etc., may keep a man going for a day who had two or three meals the day before, but the second day he will undoubtedly want something more substantial. So that to render our mounted forces independent, we must evolve some system of supply, and I will here briefly sketch my ideas of how the supply system may be carried out.

In the limit of time I have set myself, I cannot go into details and particulars, but merely sketch out the general principles of my proposed system.

I assume that to a certain extent, the line of advance of my main force will cover the country on both flanks. I shall, therefore, take no great risk in starting a special line of supplies towards my cavalry and mounted infantry moving on the flank (see diagram). The 1st Cavalry Supply Depot might be, say, twelve miles on the flank towards which the cavalry are operating. This could be protected by infantry, and if necessary, by field guns. As the army moved forward, this post would also move forward, carrying with it the unexpended stores of food and ammunition, beyond that post,



which would be filled up from the advanced dépôt or supply park as might be most convenient, I would have subsidiary dépôts each protected by a party of mounted infantry, whose strength would vary with the size of the force they had to supply; by means of this chain of posts, I should easily be able to keep mounted troops supplied with food and ammunition, allowing, say, 8 days' full rations for men and horses to last for 14 days. There should be no difficulty in obtaining meat from the country, so what I would chiefly carry would be bread stuff, groceries, and ammunition. Ammunition would be carried in the ammunition column attached to the Royal Horse Artillery, but more might be required. Being highly elastic and mobile, these posts could be easily withdrawn, should the striking force have to operate on the other flank, and similar posts thrown out to meet it. These arrangements would be necessary for a force operating continuously wide of the flank of the main army; for a raid with a definite object in view, such as the breaking of a railway or the seizing of a defile, and which, probably, would not last more than three days at the outside, light vehicles could be taken, if possible, from the country, carrying supplies; these could be abandoned when empty, or the force could chance living on the country.

Finally, to recapitulate the qualifications of the two arms, for cavalry and mounted infantry, we find necessary:—

FOR CAVALRY.

Highly gifted leaders—and by leaders, I mean every leader of a body, however small—good horsemanship, horsemastership, knowledge of country, quickness of perception, and highly trained intelligence, powers of shooting, especially at long ranges, and use of *arme blanche*, whatever it may be.

FOR MOUNTED INFANTRY.

Good knowledge of riding, horsemastership, intelligence, knowledge of country, and sufficient knowledge of scouting and outpost work, to take the place of cavalry at a pinch.

The mounted infantry soldier has a complete knowledge of infantry fighting; what he wants to practise is to get a more extended view or outlook of the military situation.

On two occasions in the South African War, I saw mounted infantry regiments formed from infantry battalions, and set to work at their duties. It was extremely noticeable that for the first few weeks they did not get into the way of looking far enough afieid, consequently patrols got surprised and cut off when they should not have been. This, however, was due to their infantry training, and a little experience of mounted work soon corrected it. The rôle of cavalry is, in my opinion, enormously strengthened by the support which it will get from the mounted infantry on wide operations, and working in conjunction with it, we should have an incalculable advantage over the cavalry of any other nation.

I think, that the true rôle of the mounted man in battle, is to operate wide on the actual line of battle, and thus used, they would, in a smaller degree, have the strategical effect of the Navy at sea by threatening various points at the same time.

Lieut.-Colonel H. DE LA P. GOUGH, *p.s.c.*, 16th Lancers (Staff College) :—The only point in the lecture that struck me as being open to discussion is with regard to the use of cavalry on the actual battlefield. In the concluding paragraphs of the lecture, General Bethune said he thought the cavalry ought to be employed very wide on the flank. I think myself there is no doubt that the mass of the cavalry should be employed on the flank; but I think in England we are rather inclined, possibly, to employ them too wide on the flank, to operate too far away from the main battle, and not use the cavalry in the actual main battle and in the attack on the other arms, in close combination with the *decisive* attack, when it comes off. As far as Continental nations are concerned, I am perfectly certain that when a big war takes place on the Continent, we shall see both the French and German cavalry acting in the very closest co-operation with the *decisive* attack on the enemy's infantry. Of course, they may have to defeat the other cavalry in order to be free to co-operate in this manner; but if the opposing cavalry are away trying to get round the rear, I do not think the Continental authorities mean to take any notice of them. I think they intend to bring *the whole of the three arms to bear on the decisive point*, and I think that is a subject which is worthy of our attention. That is the only thing I wanted to say, because I think commanders are at times rather inclined to say to the cavalry: "Oh, you go away on to the flank, then I need not think about you any more; I can now pay attention entirely to the infantry and the artillery." But I think it is a combination of all three arms on the *decisive point* which is going to make for *decisive* victory in the future as in the past.

Colonel A. J. GODLEY, *p.s.c.*, Mounted Infantry School, Aldershot :—The only thing I have to say is that I think we, of the Mounted Infantry, training with the Aldershot Army Corps, will all agree very much with what the lecturer has said. The only thing to which I do rather take exception is what he said about the mounting of us on mules. I think, Sir, you know I have a very good reason for saying so, because for the last two years we have had a very big concentration of the whole Mounted Infantry of the command at Aldershot, and you have set us such tasks to do on the days that we have been concentrated as I should be exceedingly sorry to take on with mules or any kind of ponies, except extremely good and active cobs. I am perfectly certain that Mounted Infantry, to be of any real help to the cavalry and of any real value to the Army, must be so well mounted that they can go over any sort and kind of country, and follow the cavalry wherever they can go; and I think it rather lowers our standard if there is any idea that we should be carried on any kind of conveyance which does not fulfil those conditions. I am glad to see that, in the same connection, General Bethune said something about the cavalry being hampered by wheel transport. It has been said to me very often that infantry carried on carts are mounted infantry, and I think, by what he has said, General Bethune has shown what a heresy that is. I should like to emphasise that our principles have been infantry first and foremost, and our men are trained absolutely as infantry in every way, with the advantage that our training I hope is much more extended, and goes as much farther afield on infantry principles as our cobs will carry us. There is one other thing I should like to say, and that is, that a distinguished cavalry brigadier said something to me which I think sums up the whole situation most perfectly in a very few words. He said that his cavalry brigade now was a force

of all arms. I think that is the very best definition, and gives the best idea of the rôle of mounted infantry and cavalry in any cavalry force that could possibly be made. He said: "In my cavalry brigade I have got three regiments of cavalry, a battery of artillery, and a battalion of infantry"—mounted infantry, but none the less infantry because they are mounted.

Major-General Sir EDWARD T. H. HUTTON, K.C.M.G., C.B., *p.s.c.*:—The lecturer will, I hope, allow me to congratulate him upon the excellence of his lecture, and also upon the fact that he represents what so many of us wish was more generally represented in the British Army, that is to say, an infantry soldier who, showing a special aptitude for the mounted service, has been transferred to the mounted branch. I think Sir John will forgive me upon the present occasion if I remind the audience—as there is in the air the idea that the tactics of cavalry are ended—of what the recent Commander-in-Chief, Lord Wolseley, to whose intuitive military genius we owe the establishment of mounted infantry in the British Army, said on the subject of mounted infantry and cavalry. His view was to have mounted infantry for two purposes. Firstly, to give the cavalry what is required in the shape of fire power; and, secondly, to increase the value of the infantry themselves upon the modern battlefield by giving them a small proportion of mounted men who would thus provide them with their own mounted scouts and reconnoitring parties. The importance of these points has been well exemplified in the Russo-Japanese War. These are Lord Wolseley's words in the discussion following a lecture¹ given here nearly twenty years ago:—"We are told the cavalry soldier ought to be as good on foot as the infantry soldier is. I do not believe in the jack-of-all-trades; I think he is a myth. I believe the cavalry soldier ought to be taught to fight on foot when it becomes necessary to make him do so; but in my opinion to make him do so except in an emergency is a waste of power." In 1891, when the mounted infantry movement had been well established, he again made use of these expressions²:—"The cavalry soldier is intended to fight on horseback. If you intend to make him fight on foot, well, you will make him into a very bad mongrel, to a bad dragoon; but he will not be the dashing soldier which you wish him to be in the open country. I should be very sorry to see it happen to our cavalry. To make men good horsemen, to teach them to fight as they do effectually when they are in the saddle, I think it would be a prostitution of the finest part of our Service—the finest part of our Army—if for a moment you convert our cavalry soldiers into men fighting on foot; and it is for this reason, and this reason only, that I would wish to see attached to every cavalry regiment going into the field, where the country admits of it, a considerable force of mounted infantry. I do not agree with the opinion that because no foreign nations have adopted these views we should hold back until

¹ "Mounted Infantry," by Major Hutton, King's Royal Rifles (late Commanding Mounted Infantry in Egypt).

² "Mounted Infantry: Its Strategical and Tactical Value," by Lieut.-Colonel Hutton, Commanding the Mounted Infantry Regiment. Military Society of Ireland, April 20th, 1891.

they do before we strike out a line for ourselves, and see the advantages which can accrue and will accrue to the general who has at his disposal a considerable force of mounted infantry in the field." I feel sure that you will forgive me for quoting the words of Lord Wolseley, to whom the British Empire owes the institution of mounted infantry. No one, I feel sure, would state in stronger terms than he the fact that the successful issue of the South African War was very largely due to the principles of mounted infantry being thoroughly recognised and carried into effect. As regards mounted infantry in its relation to cavalry, the combination of the three arms, cavalry, artillery, and infantry, unquestionably gives the cavalry and the cavalry leader the very power required. It gives to a mounted force that fire power, without which it is impossible in the present day to maintain or do defensive work in a campaign. The newspapers teem with incidents as regards the Russo-Japanese War in which it is easy to see that if either side had possessed a fine cavalry, very great results would have followed. I will merely quote one instance of an eye-witness, who said: "I could not help speculating what would have happened to the Russian infantry after a hard day's fight, or when retreating with their cartridges nearly exhausted, worn out with fatigue and want of food, if a well-handled body of hostile cavalry had suddenly appeared about dusk and charged resolutely home. The weakness of the Japanese cavalry must have often saved Russian retirements from degenerating into routs." We know that the Russian Cavalry was almost entirely composed of Cossacks, not their best troops, and that the Japanese cavalry are not good horsemen, and that they were without horse artillery or machine guns. With reference to shock tactics, perhaps the cavalry, among whom I am sitting here, will allow me to say a few words. I do not hold a brief for the cavalry, but I have the very strongest views as to the importance of shock tactics in the modern field of battle. There are those that would have us believe that the days of shock tactics are over. Of such I would ask whether the lessons taught us British soldiers during the following wars are not of some special significance—wars fought out by us under modern conditions of breech-loading weapons and machine guns:—In the Zulu War of 1879, at Isandlewana, where the 24th were swept away by the Zulus by a direct charge right up to the muzzles of their rifles; at Kambula, at Ginginhlovo, and at Ulundi; in the Afghan War of 1878-79, at Ahmed Kehl, where at one moment the infantry engaged were in a very delicate and dangerous position on account of the determined onslaught of the Ghazis; in the Soudan Campaigns of 1884-85, at El Teb, at Tamai, at Abou Klea, and at El Gubat, at the two last of which Sir John could, I have no doubt, tell you himself that they charged right up to the muzzles of our rifles. Are we to argue that a resolute, well-equipped cavalry are futile for shock purposes on a modern field of battle, in spite of our own personal knowledge and experience that even savages, with spears and shields, have broken our squares, unshaken by a long-drawn-out preliminary fight, untouched by shrapnel or by rifle fire, and confident in their own British pluck. We read that in the Russo-Japanese War the bayonet charge has been repeatedly resorted to, and that hand-to-hand fighting has, as in the days of old Brown Bess, upon numerous occasions decided the final issue of a fight. It is surely not unreasonable from the examples I have quoted to argue that the sudden onslaught of a well-led body of horsemen upon artillery or infantry, decimated and worn out with a long-drawn fight, and exhausted by losses, will prove decisive. If the Russian cavalry effected little in the late war it was because, as we

are told, it was ill-equipped, ill-trained, and badly led. If the Japanese cavalry failed it was from want of numbers, absence of machine guns and horse artillery, and ineptitude as horsemen. I am one of those who deprecate the present tendency of making our cavalry rely mainly upon their fire power, and to trust to dismounted action for their success in the field of battle. Initiative and enterprise must now, as ever, be the life and soul of a sound cavalry. This cannot be attained by impressing the cavalry soldier with the fact that he is useless for offensive purposes unless on his feet. I venture to express the hope that the near future will see an expansion of cavalry by the increase from three to four squadrons per regiment, but without increase of horses (each squadron being in turn dismounted for three months, during which period it would do its musketry, dismounted drill, and furlough), and that a Cavalry School of Tactics and Strategy may ere long be established. I believe that the future part to be played by mounted troops in modern war is yet to be realised. The first great leader of cavalry, who is given the means and has the opportunity of combining *shock with fire power* in right proportions, will do little less, in my humble judgment, than revolutionise existing theories of war. I only trust that the time may come when my gallant and distinguished friend, General Sir John French, may have that opportunity, and that I myself may be present to bear my part in his success.

Colonel LONSDALE HALE, R.E., drew attention to a paragraph on "The Field Exercise of 1889," which ran as follows:—"Mounted Infantry will in future probably form a part of every force in the field. It should move with the vanguard, and may on exceptional circumstances be employed in scouting and patrol duties, thereby allowing the cavalry to be reserved for combined action with the other arms." This regulation gave great offence to the cavalry, who, then and for years afterwards, vigorously declared that they could not only do their own work, but that of the mounted infantry as well. Only a year ago, in the discussion following a lecture given by Colonel Gough, he had depicted an ideal cavalry division, able with its dismounted men, its pioneers, and its artillery to act independently as a force of all arms. According to the lecturer, these ideas were quite unpractical, and we must go back to the principle enunciated 17 years ago for real cavalry work in the field.

Colonel C. B. MAYNE, R.E.:—I am very glad that Colonel Hale read out that paragraph just now, because it conveys the idea of another combination of cavalry and mounted infantry which I think we must consider; but which is the best I am not prepared to say offhand. It probably depends on circumstances. About four years ago I wrote for the Indian Institution a paper very much on the same lines that General Bethune has written. I have thought over the matter a good deal since, and for some of the very reasons that General Bethune has mentioned in his paper, I think we ought to consider this other combination which Colonel Hale has epitomised in the paragraph that he read. The only criticism which I would like to make on this admirable lecture is the definition of a mounted infantryman as being able to do everything that the cavalry can do, except the charge. The reasons, I think, will be apparent as I go on. As regards the relative uses of cavalry and mounted infantry, the first point to be considered is their relative financial values. It is admitted that cavalry are far more expensive. We all know that the money granted for the Army is a limited sum every year, and with that limited sum we have to do the best we can to meet the main general

requirements of the Army. We may talk about the desirability of increasing this, that, and any other detail; but the general view of the whole matter must rule the case, and it is very doubtful whether for many years we shall get any considerable increase in our cavalry arm. This fact will govern the relative numbers that will be probably available for war. We know that in South Africa our cavalry did not amount to more than one twenty-eighth part of the infantry in the field, and then it was all broken up. The normal proportions in European warfare would be about one-sixth, and in such a country as Africa it ought to have been about one-fourth. We should then have had sixty thousand cavalry in the field, and they would most probably have settled the war in a very short time. We have to face the fact, that we will not get the large increase of cavalry that we ought to have, and that we would like to see, in the field, and the question we have to consider is how to supplement it in its work. As far as I have read with regard to the Russo-Japanese War, there was no cavalry on either side worth calling the name of cavalry. The relative duties of cavalry and mounted infantry should be summed up, I think, very largely in their principal methods of fighting, namely, the cavalry to fight on horseback and the infantry to fight on foot. Whatever takes place besides these are additional duties which they are called upon to perform when they are needed. I have spoken more than once in this hall of my belief in the possibility of cavalry charges in close mass, especially with modern armaments. I do not think the modern bullet will stop a horse—it will hardly stop a man at times; but when one comes to think that a soldier has to go into action with something like two or three hundred rounds of ammunition, and has to raise his rifle two or three hundred times in order to fire that number of bullets, it means that his firing must get very slack and worthless in a very short time, with the result, as Sir Edward Hutton pointed out, that proper cavalry charges could have been made on the battle-fields in Manchuria again and again with the greatest ease, and with hardly any loss at all. We can, I think, recall occasions in South Africa very similar to those that he has mentioned that might have proved serious to us had the Boers had proper cavalry. Another important point that has not been mentioned at all is the relation of the man to his mount. As has been very properly said, the cavalryman and his horse are one, and the mounted infantryman and his horse are two. What is the conclusion to draw from that? The conclusion that I draw from that, and which I have always upheld, is (I am talking now of a serious fight, not a skirmish) that the mounted infantryman must, when he arrives at the place of fighting, forget that he has a mount at all. If from that moment onwards you have one or two men out of every four left behind to look after the horses, you lose a very serious proportion of effective rifles. In my humble opinion, the "mounts" of mounted infantry should be hobbled and herded under the charge of one man per company, so as to get all the rifles possible into action. If for any reason the "mounts" are lost, it is not a serious matter affecting the campaign, and they can be more or less easily replaced. Then comes another question of the character of the mounts. The cavalry horse must be a trained horse. We all know the great losses we had in South Africa with our horses; I need not refer to the many reasons for the terrible wastage that took place there; but it was partly owing to that wastage that our cavalry developed into mounted infantry. You can replace the mounts, at all events to a certain extent, of mounted infantry, but you cannot replace the mounts of cavalry. In South Africa we absolutely destroyed our cavalry arm owing

to the way in which we used them. Owing to their small numbers they were more or less used up long before the mounted infantry appeared, with the result that their trained horses were destroyed and could not be replaced. Knowing the very small number of horses that are available for cavalry and the great difficulty of bringing up trained remounts for them, it is a question whether we should use our cavalry in such a way as has been sketched out in this paper, and which I myself advocated about four years ago. Our usual idea of scouting is that of a few men moving over a considerable tract of country. That means very high training, the ideal of which the cavalry should always maintain. I do not believe that the mounted infantry should be expected to reach the same standard as the cavalry, otherwise there is a loss of power in other respects. The alternative idea that I now want to put before you—I am not advocating the one or the other, but I hope the two will be considered as alternatives that may each find their application under suitable conditions—is that quoted by Colonel Lonsdale Hale, viz.: Whether we should not reserve the cavalry forces, with their ideal training, as a reserve for emergencies or for the special occasions mentioned by General Bethune, such as, for instance, of sending them off on wide movements, where you want the highest trained men you can get in every way; whereas for what I may call mere reconnaissance work you can flood the country in front of the main operations with a large number of the cheaper force of mounted infantry. I know that in a country like England it is not easy to move straight across country, but all countries are not enclosed, and in Afghanistan a mule would do far better than the best cob; it is more sure-footed and can clamber over the hills better. If you used horses, their hoofs would soon wear out. Going back to past history, the great flood of tribes that poured across Europe took the shape of a wide front of mounted horsemen. When the Turks began to flood Europe it was with a wide front of mounted horsemen. In Frederick the Great's campaign he was entirely at sea again and again because he was surrounded by a flood of Hungarian mounted troops. Napoleon at times was also completely at sea, especially in his Russian campaign, owing to this flood of mounted infantry—not skilled cavalry, but mounted infantry spread out in a long line, and which flooded the country and swept round his flanks and rear, so that they always knew where he was. The question is whether we should not *on occasions* be wiser to make more use of mounted infantry—a cheap force compared to cavalry, and one which could be raised in a very much quicker time—at all events for wide strategical reconnaissance work, and whether we should not try and feel for the enemy by a long line of mounted men, who would simply find the enemy by contact, and who are less skilled men than highly-trained cavalry scouts, and so keep back our cavalry units, which are more expensive and more difficult to replace, for the more special occasions on which it would be worth while to sacrifice them, and not to throw them away on such occasions in which the work could be done by a cheaper and more easily-raised force.¹

¹ As a case in point, in South Africa, when we found that our limited cavalry force was totally unable to carry out the excessive work thrown on to it, and was in danger of extinction, it would have been far preferable to have kept it in reserve as *cavalry*, instead of letting it disappear and take up the *role* of mounted infantry. A few cavalry units would have been invaluable at times for charging and pursuing purposes, and they might have been saved if the mounted infantry had been more fully used for reconnaissance work on the lines indicated above.—C.B.M.

On the motion of the CHAIRMAN, a hearty vote of thanks was accorded to General Bethune for his instructive lecture; and a vote of thanks was passed, on the motion of Colonel Lonsdale Hale, to Sir John French for presiding.

The CHAIRMAN (Lieut.-General Sir JOHN D. P. FRENCH, G.C.V.O., K.C.B., K.C.M.G.):—I do not think that any more useful subject could possibly have been brought forward for our consideration than that which has been so ably dealt with by the lecturer this afternoon. The methods to be adopted in the combined action of cavalry and mounted infantry, and the relation which should exist between these two arms has, I believe, been completely and absolutely misunderstood in the past. As time goes on our ideas are no doubt getting clearer, but there is still plenty of room for close examination and discussion. In the past there seems to have been an idea that the two arms must necessarily be antagonistic the one to the other. The most mischievous theories as to their employment and use have been spread broadcast, and spread by men whose practical experience in the handling of either arm gives them no kind of authority to express these opinions. One amateur Centaur would dash the sword and lance entirely out of the cavalryman's hand. Another fanatic ("Beau Sabreur") would throw the horseman's splendid fire-arm to the wind. The fact is, false prophets and theorists have arisen all round us everywhere. The value of cavalry, trained as it is now, is open to no argument whatever, and personally I hold such a high opinion of the value of mounted infantry that we at Aldershot, as Colonel Godley has told you already, mobilise every mounted infantryman in the command every year, to the number of between three and four hundred. The lecturer has had a very great experience of cavalry, infantry, and mounted infantry, and no better answer can be given to the false theories and ideas which have been so freely expressed in the past than in the skilful, temperate, sound, and soldierlike manner in which he has dealt with the whole question. There is only one point I would like him to bring forward more clearly, for I am quite sure he is just as convinced as I am of its importance. Before the brilliant field of enterprise which is open to the cavalry soldier in his *rôle* as a mounted rifleman can be clearly entered upon, the enemy's cavalry must be absolutely overthrown. Therefore in the training of the cavalry and in its handling in the field, everything must first conduce to the overthrow and defeat of the enemy's cavalry. In dealing with that part of the cavalry which the lecturer destined to throw on the enemy's flanks and rear, he said that they are to "force their way through the opposing cavalry," and so discover the secrets that lie behind. In this remark he shows me clearly that he practically agrees with what I have said; but when he replies to the comments in general I should be glad if he will make that point perhaps a little clearer. I absolutely agree with everything else General Bethune has said; I have no further comment or criticism whatever to make, but I should like to say what great pleasure it has given me to find the lecturer giving such prominence to the necessity for the study of the higher art of war by cavalry soldiers. He tells us that they must be able to read the symptoms which reveal themselves of the hostile arms, visible or semi-visible, in the fog of war; they must be students and thinkers; in fact, strategists of the highest order, and that is no exaggeration. I will go one step further and say that both cavalry and mounted infantry, in the exercise of this most brilliant *rôle* which can fall to the soldier's lot, must also be possessed of a thoroughly sound knowledge of tactics. When Colonel

Gough referred to what General Bethune said about cavalry moving to a flank, I think what he meant was that that was more of a strategic than a tactical movement; but I am quite sure that what Colonel Gough said was absolutely sound, and that, tactically speaking, the cavalry very often go much too wide; they very often do not remember they have to help and support other arms; they go off a great deal too much on their own; and I think that is a most useful point that Colonel Gough brought forward. When the enemy's cavalry has once been overthrown and is prevented from interfering with their enterprise, a vast field is open to the cavalry and mounted infantry, and to know how to turn their opportunities to the best account they must thoroughly understand the combined action of the three arms on the field of battle. This applies, of course, in a great measure to the cavalry, but more particularly still to the mounted infantry. The lecturer has assigned to them as their first duty the formation of a mobile reserve for the General Officer-in-Chief, who can apply them quickly at any given moment during the fight. I have no doubt that that is really their chief and principal use, and it is unnecessary to lay stress on the necessity for the leader of such a force being possessed of the highest technical efficiency.

Brigadier-General E. C. BETHUNE, C.B., in reply, said:—I should like to make a few remarks with reference to the speeches that have been made since the lecture; but I have already taken up your time so long that I will not detain you many minutes. With regard to what Colonel Gough said about the cavalry moving wide on the flank, I am absolutely with him in every way. If he will carefully think over what I said he will see that I included that point. In talking with him about it before lunch, we were discussing whether it would be advantageous for them to apply their forces in that way, and that, I think, governs the point he mentioned. I think, in my own heart, that, being wide on the flank and far away, the cavalry would have the power, by means of these quick movements, of keeping up the spirit of alarm in several different columns, so that the strategical effect at the moment would be greater than it would be if they were absolutely confining themselves to one particular point; but that is a point where I am open to criticism. I think by being far away they are able to cut in, either on the flank or on the field of battle, or wherever their services can be most usefully applied, and their swiftness of movement lends itself to that. With regard to Colonel Godley's few remarks, it was not I who said that the mules were ignorant. I said the great advantage of the mounted infantry by being mounted on ponies was that they were enabled to perform the duties of infantry, and also at a pinch take on the office of the mounted infantry soldier. I hope he will allow me to apologise for any slight he thinks I may have been guilty of. In reply to Sir Edward Hutton, I would only like to mention this, that I did not say which was the better, the oyster or the bread-and-butter; it is a matter of taste purely. Sir Edward Hutton said more than I, as a cavalry soldier, dared to say in front of a mixed gathering. I absolutely endorse everything he said about shock action, and every word he said afterwards about the action of cavalry and mounted infantry. I approach the remarks of my friend Colonel Hale with a certain amount of diffidence, because I know he is a master of fence and an excellent strategist, while I am only a poor defenceless soldier, in a manner of speaking, although I have my conviction behind me to strengthen me. I am not going to enter into dialectics with him, but I merely wish to mention that when we were talking about cavalry

and mounted infantry I assumed the perfect cavalry. As far as my idea of the perfect cavalry soldier goes, when he has his pioneers with him, with their tools and weapons which they should have with them and the material they carry, they would be perfectly capable of mending any bridge whatever, and we should do away for the moment with the valuable service of the engineers, who might be more of an enemy in other ways than they would be of assistance. With regard to what he said about putting the clock back, of course that is a very much larger question; but I did mention that the mounted infantry could scout for the cavalry at a pinch. I did not like to say "as a *pis aller*," but to take the place of cavalry when they were doing more important duties. I do not think that can be said to be laying too much emphasis on the fact that the mounted infantry ought to be able to perform scouting duties; there I may be wrong. It is a difficult thing to reply to some of these rather close questions, because I speak very generally to-day. The thing would be so rapid. I could have taken hours and hours talking about the subject if I had gone into it more fully, and therefore I have spoken very generally to-day. It is very difficult to answer questions which relate to points which might have been more elaborated in my lecture, and which perhaps I have not the power to elaborate, but which I took it for granted were understood and known to most of you present. But as far as I can gather from what Colonel Mayne said, he entirely agrees with my remark, that it is a question of £ s. d. We want what we cannot get, and we have to do with what we can get, and that is always the history of the British Army all over the world. We want a great deal more cavalry; but unfortunately the Treasury says there is no money, and therefore we cannot have it, so that we must do the best with what we have got. Therefore the mounted infantry in that connection is not only a substitute and help to the cavalry, but an enormous strength to the cavalry, if it is used on the lines on which we have agreed to-day it should be used. With regard to the question of reserving cavalry for crucial moments, I think that is rather a dangerous theory, because we are not all ideal leaders. Some of us may have faults which lead to over-caution, and so on, and if we wrap our cavalry in cotton wool, we are going back to what has been thought for a great many years, namely, that we are too much afraid of wasting our cavalry because it is so expensive and precious that we do not like to use it. If you advance the theory that the cavalry must not be used except on special occasions, the question then rises: "When are we going to have these special occasions?" I would rather say that we are all paid to be killed; we are all paid to go out and fight—that is our job—and I would rather see a few regiments wasted and squandered, theoretically—personally I would say no; but there are cases where I should like to see troops squandered in that way, rather than always keep our cavalry back for certain occasions when they are wanted. There is a translation of a very able article in the last No. of the JOURNAL of this Institution—an article by von Pelet-Narbonne, the well-known German cavalry general, and a recognised authority on all cavalry matters—which says exactly the same thing. The cavalry has been sat upon on field days, until at last they are afraid to act, and if you allow that theory to come in, always keeping the cavalry for the supreme moment, when the supreme moment comes the cavalry will be dismounted and in the rear. With regard to what Sir John French said just now, I am perfectly certain that he will not misunderstand me, and think that I want to miss out any particular point; but what I had to say was really more from the point of view of holding out our hands from the cavalry to the

mounted infantry. I therefore missed out a great many points which might have been more elaborated. There is no doubt about it that the first objective of our cavalry must be the enemy's cavalry. Until we have swept that away and neutralised it, there is no advance possible for the main army. That is the thing we must go for first. After that, if we are lucky enough to do away with the enemy's cavalry, half our work is done, because then we can get on, and the army finds no obstacles to its advance except natural ones. The work is very much easier then than it would be if the cavalry had suffered a reverse, and the army had to face an enterprising cavalry. As regards the question of weapons, I think that the man and the horse is really the weapon, and that whatever weapon you give him, if he can use it properly, is the best weapon he can have. Primarily, the man on his horse mounted is the weapon, and after that you can give him a sword or a lance at will. I have a predilection in favour of the lance.

THE DEVELOPMENT OF INTERNATIONAL STRATEGY SINCE 1871 AND ITS PRESENT CONDITIONS.

*By T. MILLER MAGUIRE, M.A., LL.D., of the Inner Temple,
Barrister-at-Law.*

Wednesday, 29th November, 1905.

Major-General R. S. S. BADEN-POWELL, C.B., in the Chair.

[This lecture was delivered extempore, and illustrated by large wall maps.]

IN March, 1904, at a meeting in this building, we had occasion to discuss as the subject for a lecture "The New Pacific," and it was my duty, at the request of the Council, to set forth the revived and greatly enhanced importance of that Ocean. At the close of the meeting, Lord Roberts, who presided, put the weight of his authority on our side and pointed out that, beyond any doubt, the centre of gravity of the world of commerce and of international strategy was about to shift from the Atlantic to the Pacific. Although Japan had then just started on its career of glory, we little thought—no one in Europe thought—what a remarkable development was about to occur. There was no indication that the Japanese Islanders would, by their naval exploits, rival the exploits of the British Islanders a hundred years ago. It did not seem probable to any one that the greatest military power of Europe, a power that had extended itself, accompanied by tremendous forces, from the Caucasus at the close of the Crimean War in 1856, to Port Arthur in 1898, should be not only defeated at sea, but also thoroughly defeated on land, in spite of the desperate heroism of its troops, under the influence of the hereditary tenacity of its race, and should be driven not only clean out of the Korean Peninsula, which might have been expected if the enemy gained sea power, but also out of Manchuria, and that for the first time since the Turks passed into Europe in the middle of the 15th century, a definite and distinct repulse should have been endured by the biggest part of Europe at the hands of Asia. This surprising fact is a matter of strategic international significance which cannot be overlooked. The result has been to affect the careers of every person in this room. Whether we continue to have an alliance with Japan or whether we have not, one thing is perfectly clear, that the relations of Europe and Asia have changed, for our time at any rate, and that, from a commercial as well as a strategic and inter-

national point of view, portentous events are in store for us all. This consideration alone would justify a lecture on the subject before us.

But other startling events occurred exactly about the same time. I say that our prediction in March, 1904, would have been absolutely verified, and predictions worked out in detail in that splendid book of Bancroft's, "The New Pacific," if nothing had occurred except what has taken place between Japan and Russia. The centre of strategic gravity has been transferred from the Atlantic to the Pacific, as it had been previously transferred from the Mediterranean to the Atlantic. But another incident, I think almost more significant, has occurred; that is to say, the assertion of themselves as a world power by the United States of America, and this clearly and almost defiantly. Here we have a power which apparently acted only in the interests of peace, coming and laying down not only the Monroe doctrine, that none of the European Powers are to expand any further into the vast American continent, north or south, but that practically no European Power is to come within 2,000 miles of America, for fear, within even that long range, the equanimity of the people in the United States might be disturbed. Here we have the President of the United States definitely asserting that his nation is to control what Captain Mahan calls the centre of international gravity, the centre of commerce and trade, the West Indian Islands, the Caribbean Sea, by the Panama Canal. He holds that the Panama Canal must be made as quickly as possible, and that the United States are to control it, and that they will punish anyone who dares to interfere with their policy. They propose to create a powerful navy, a navy which they can make powerful beyond precedent, owing to their unparalleled wealth and population, and assert this navy is to be supported, if need be, by a very powerful army, to control the link between the Atlantic and the Pacific in the interests of the United States for evermore. That is a very important condition in the position of international strategy. (See quotations in the Appendix.)

Now there are new strategic considerations. There is the *entente cordiale* with France on the one side and the alliance with Japan on the other. I do not propose, in regard to these matters, to say a word of my own, because they are delicate matters, and I might easily be led into trouble by the tongue, which is an unruly member, and, as you know, I am a man of peace. But I should like to read to you what some other people say on these matters, and I will take the views of the German Emperor, and the views of Mr. Roosevelt, the President of the United States, and the views of the French Press, in regard to some of them. A very plain-spoken and able work has been recently published by a Captain Sorb, of the French Navy,¹ and he, in discussing the *entente cordiale*, gives us definitely to understand that, in the opinion of a great number of Frenchmen, it is a thing to be reprobated, and they lay it down that it is a mere piece of hysteria. They say that a nation's policy was never definitely controlled by any such method, and that if the French were wise they would devote themselves to getting out of the Mediterranean.

¹ "Quittons la Méditerranée et la Mer de Chine." R. Chapelot et Cie., 36, Rue Dauphine, Paris, 1905.

to securing control as far as they possibly can of the Atlantic, and to aim at Ocean Power, the want of which at the time of Fashoda was so disastrous, and, if necessary, they should make an alliance with Germany with the object of crushing England in the future. You can get this book in the Library of this Institution. I really must not quote some of its advanced theories here, but in French military and civil journals of high repute similar views are clearly set-forth, that they consider the *entente cordiale* as a thing that must be broken; that it is not of the slightest use to France, and is generally in the interests of England; and that the future of France is safer with an alliance with Germany than with England. They contend that it would be absolutely foolish, in shaping their policy, to be guided by the Triplice, by fears of the German, Austrian, and Italian alliance, an anachronism, as is also the Revanche. They contend that the new posture of affairs, since the fall of Spain and of Russia, demands new international combinations to cope with new strategic conditions. They contend that their true policy now is to prepare to ignore the *entente cordiale*.

All the lessons we have had, and all the discussion we have had about the combinations on the Eastern and Western frontiers of Germany, as to Russia and France *versus* Germany and Austria-Hungary, which have been leading topics of discussion in every strategy class-room in Europe for twenty-five years, are to go for nothing, and discussions as to the relations of Italy with this Triple Alliance are vanity, according to the new school. Germany gains much freedom by the present collapse of Russia, and Italy is not required they say. It is a pity, having regard to Italian finance, that this doctrine could not have been preached for the past fifteen years. French writers say, let us drop the Mediterranean, the Mediterranean is only a snare, relating only to dealings with Turkey or Italy and Egypt; let us ignore the frontiers of the Triple Alliance, and let us devote ourselves to becoming strong at sea in order to cope with Japan if need be, with England if need be, with the United States if need be. They consider these three Powers to be the real danger in the future, to the stability and commerce of the European Powers. Indeed, many German authorities entertain the very gravest suspicions of the United States, which they fear more than France.

I have not the smallest prejudice one way or the other, nor have you in this hall. We are not here to discuss what is the proper strategy, but only to discuss the modifications that have occurred in the strategic position since 1871, and to consider certain present conditions of strategy. Therefore, we cannot commit ourselves to one particular view or take any sides, or be influenced by our own susceptibilities at present. I must not be a partisan of France, or Germany, or Japan, or any other State or combination of States. One result of recent development is, that all the problems which a few years ago were discussed at Woolwich and Camberley in lectures, and which were the foundations of the strategic geography of Europe, are now of secondary interest, Japan being victorious, and the United States laying down the doctrine about the Panama Canal and the West Indian Islands to which I refer, and Russia, which was one of the two Powers that threatened to hover over Germany from Warsaw, while France advanced across to the Rhine, having collapsed for the time being. Away from Central Europe and across the seas Strategy has taken its flight—and its developments

depend on strong and ambitious and able unconventional men in Washington and Tokio.

I have referred to the French views, I have them all here; but it would be tedious to translate them. We have Captain Charrier here; he is a great authority on the French views in these discussions, and I hope he will get up presently and tell us something about them. I do not want him to commit himself in the slightest degree, but he might tell us whether or not it is the case that I have fairly represented the views of a very considerable number of eminent and well-informed Frenchmen about the *entente cordiale*. That is all.

It is not ancient history or antedeluvian policy that I am about to put to you next. Here is a speech of the German Emperor on foreign affairs, published in to-day's *Times*, a very clever speech, nothing offensive in it, but when you read between the lines you should begin to reflect, "perpend I prithee." When Emperors or American Presidents begin talk about humanitarianism, and courtesy in international relations, you should hearken to the voice of the spirit of Cromwell: "Fear God, but keep your powder dry." The German Emperor says: "I accompany the entrance of Japan into the ranks of the great powers with sincere wishes on behalf of the pacific mission of this highly gifted people, in the interests of civilisation. My liveliest sympathies are bestowed upon the exertions which the friendly neighbouring Russian Empire is making with the object of effecting a new arrangement of its domestic affairs." Nothing could be fairer than these sentiments. He loves the two of them; but like Captain Macheath, in the "Beggar's Opera," I fancy he would say: "How happy could I be with either were t'other dear charmer away." The German Emperor goes on to say: "I must take a glance at Germany's own international position, which cannot fail to involve the recognition of the fact that we continue to have to reckon with a considerable amount of misconception of German ideals, and prejudices against the progress achieved by German industry. The difficulties which had arisen between us and France in the Morocco question had no other source than an inclination to settle, without our co-operation, affairs in which the German Empire has also interests to maintain." He then goes on to say that the signs of the times make it the duty of the German nation to strengthen its defences against unjust attacks. But no nation ever considered that any attack on itself was just, or any of its own operations unjust. "Orthodoxy is my doxy, heterodoxy is your doxy." So that the speech amounts to strengthening the defences of the nation against any attack, just or unjust. That is what it means, and it is another significant statement.

Therefore, we have had one definite statement from France, another from the President of the United States, and another from Germany. Now let us take what the interpreters of the German Emperor think he meant by his statements. We will take a civilian of eminence and a soldier of eminence, and we will refer to International Law. But do not be deceived by International Law. From a practical point of view no greater rubbish was ever studied by any human being than International Law. I am a victim of International Law myself in a small way, and I see another victim to it sitting in front of me, Judge Rentoul. The learned judge and myself spent

much money, much midnight oil, and much time studying International Law, and when we had bought scores of books, new and old, from Grotius to Wheaton and Historicus, and learned them off by heart, and got our prizes, we found that much of what we had learnt was simply delusion — mere phrases; syllogisms of impotence. International Law at sea is merely the will of the most powerful maritime State at a given moment. Our International Law against the Armed Neutrality meant that we knocked the Danes into pieces at Copenhagen, and we were about to knock the Russians into pieces at St. Petersburg, under the guidance of that admirable exponent of international sanctions, Nelson, only that the Russians assassinated their Czar to save Nelson the trouble of a bombardment, 1801. We have heard what the German Emperor thinks about International Law. He has the same esteem for it as Celts like Rob Roy Macgregor and myself. Now let us take Professor Wagner, a well-known lecturer on Political Economy at the Berlin University. He is as full of discords as was his namesake, the musician. He said: "British hatred of Germany is solely due to jealousy. Germany must have a strong fleet to guarantee its independence, and the German workmen must remember that if Germany be defeated, the German workmen suffer most." There are plenty of people, he said, who wish Germany to be defeated. He would prefer to be in time and defeat them. That is what Professor Wagner says. We can say that there are plenty of people who wish England to be defeated also. There are people in high places, journalists and others, who are doing the best they can to bring this state of things about. Does anybody believe Professor Wagner of Berlin speaking on 24th November, 1905?

As to the Emperor's speech hear some German comments:—

A number of journals call attention to the distinction which the Imperial speech makes between Powers with whom Germany is on terms of "correct" relations, and Powers with whom her relations are "good and friendly." One expositor of the speech observes that "those Powers or that Power with whom—singular or plural—we do not enjoy 'good and friendly relations' must now realise that we are not arming in order to make, but in order to meet, an attack."

The *National-Zeitung* finds that "the speech declares plainly and distinctly to the whole world that we are under no delusion as to the source of all these endeavours to leave us out of account and to set us back. Their source is envy, excited by the success of Germany in peaceful competition in the markets of the world."

Of course, by British, Professor Wagner meant to include Scotch and Irish as English. I need not read any more. These are important pronouncements, and I could go on with many similar pronouncements. It is perfectly clear there is an enormous amount of theory at any rate, calculated to shake our confidence in either alliances or the law of nations.

We, as 40,000,000 people having control of 360,000,000 of the human race, must see that the result of these speeches be not to our detriment if we can possibly prevent it. I think I may go as far as that without committing myself to any excessive statement. I hope I will not be called a Jingo in the coming discussion because I believe it to be the duty of British Statesmen to watch day and night over British interests.

There is another side of the picture, and that is the views of the Japanese. The Japanese have won, the Japanese feel sore—I do not see any Japanese gentlemen here—and one of the reasons they feel sore is, the use of the phrase “Yellow race,” and the depreciation of their race which it most unfairly implies. No man likes to be flattered to his face, and therefore, you would not care very much for people going about and calling you “white,” even if they are going to do something good for you, and to embrace you; *a fortiori*, Japanese cannot feel strongly elated by a large proportion of civilised people going about calling them yellow, and not only calling them yellow, but beating or maltreating, keeping them out of this locality and that locality, or making violent laws against men merely for being yellow. Every insult to the yellow Chinese is an insult to Japanese. Suyematsu, a most distinguished gentleman, a scholar of the highest type, a true patriot, a gentleman extremely like the knight portrayed by Chaucer:

“Sounding in moral manere was his speech,
And gladly wolde he learn and gladly teach,”

has written a splendid work, and I have his book here. He gives you distinct warning that you had better conduct yourselves a little more civilly for the future, you people who have not the privilege of belonging to the yellow race. He warns Europeans going to the East to be more courteous and considerate to Eastern races for the future, or the Japanese may feel bound to teach them manners, and I believe he is quite right. Insulting treatment of Asiatics has always seemed to me not only ill-breeding, but also dangerous policy.

But see the consequences of success in war in international relations which is my immediate topic. I ask you, would any member of a “yellow” race have written in English a book like the “Risen Sun,” and circulated it, and, indeed, been so kind as to send a copy to your lecturer of this afternoon just in time, in the year 1860, or in the year 1865 or 1880? Do you think any “yellow” man could have circulated that book immediately after that most infamous and dastardly proceeding, the last sack of Peking by the Western European Powers, that fell outrage to civilisation, and abominable outrage on mankind? Not at all. But why is it circulated now? Because the Japanese have won in the campaign against Russia and can now afford to assert their dignity before all mankind, none daring to either insult or frighten them. Verily a successful war doth elevate a race. I beg my audience to study the “Risen Sun.” He is not educated who has not read it. It will do the ladies no harm either, if they read it, especially if they read the poems by the Emperor of Japan, and the lessons with regard to the future of the race, which, I am sorry to say, many English ladies are not in the habit of observing; but in the hands of women is the future of every race. Their family relations and fitness for duty are “the chords of men.” Suyematsu tells you that people going out East will be wise to give up the “old habit” of “giving themselves too many airs.” He speaks about religion. In Europe, he says, we have only 370,000,000 of people, whereas the English in India govern 222,000,000, and the Chinese have 410,000,000, and amongst the 370,000,000 Europeans the religions are not “necessarily identical.” “Besides,” he says, “deeds are more important than words.” That

is exactly what old Spenser¹ said, "he never thought with words, but deeds, to prove the right." The ethical notions of the Japanese may be defective in many ways, "but in many ways the Japanese practice conforms to the rules which it behoves anyone belonging to any religion to obey." That is a challenge for the people of Western Europe coming from the people of the Far East. But he gives you other lessons—lessons of dread import. Handwriting on the wall of your abodes of luxury. Harken in time. It will soon be too late. You will not find sounder precepts of wisdom in Solon, in Socrates, in Thucydides, Tacitus, whom I quote in the appendix, or in Ruskin, who says he would much prefer to "sculpture a man with a sword by his side in Westminster Abbey than to sculpture a man with a ball at his toe, or a bat in his hand."

I say that the decay of our people is imminent unless you take warning.

The foundations of your strategy and of your national life depend upon the moral and physical state of your leaders or richer classes, who ought to lead, and who must lead. "Those who think must govern those who toil," and, moreover, if you don't look very sharp, the state of your masses will soon be your ruin. I see them night after night in my wanderings for the study of Sociology, wanderings that have taken me into slum after slum, and worse, into abysses of human misery and turpitude.

Their condition has become deplorable to the last degree. There are long square miles of miserable tenements for even the well employed, all gloom except the public house. The leading people, the richer people, are becoming mere worthless ball players, ignorant, selfish, idling degenerates, as Lord Kingsburgh said in this hall, wasting their time instead of preparing for the developments that are inevitable; as for the poorer (alas, I have no words to censure their neglect by the rich), the absolute and comparative decay into which they drift saddens our souls.

Now, listen to Baron Suyematsu: "In the West there are vast numbers of people who are very rich; there are also a vast number of big buildings; but they do not imply that European society is perfect. One can easily see that the majority of the western people have a very small share indeed in whatever enjoyment is derived from inhabiting these dwellings." He challenges you. He practically says "we are superior to you, all of you, rich and poor; we have souls, and we do not trifle with our children; we have beaten Russia, and we are beating you in more important matters, matters on which success by the sword depends. We do not ignore our poor. Our richer folk study in youth and middle age."

I have quoted to you a large number of different authorities with the object of proving to you that whether you study the philosophy of Germany or France, or the military literature of Germany or France, or whether you study the tone or temper of the great Republic in the Far West, or whether you study the tone or temper of the ancient Monarchy in the Far East, you must be prepared for serious developments, from taking a part in which you cannot escape, and

¹The resemblance between the lofty sentiments of Suyematsu and his imageries, and those of our grand poets, Chaucer, Spenser, and Milton, ignored by clerical schoolmasters, is very remarkable.

in which if you do not take a leading part, you will be ruined in material resources as well as in honour. The necessity for some careful study of the general principles of strategy will be soon apparent if your memory takes you back to what has occurred since 1871.

In the year 1862, stupendous battles raged along the Chickahominy and the Rappahannock. In these battles the Federal forces were thoroughly defeated again and again. General Burnside hurled thousands of men to slaughter against Longstreet and Jackson, from the slopes of Fredericksburg and across the river Rappahannock. Next year, in the battle in which Jackson met his death, the Federals were again completely defeated. The Federals had been beaten at Winchester, in the Shenandoah Valley, and in the York Town Peninsula. The correspondent of the *Times* wrote back: "I have witnessed the death of a nation." All the upper classes of England were practically cheering over the dissolution of the great American Republic. Not that they desired to see any harm happen to the American people, but they thought perhaps a defeat would be for their good; would make them more complacent, and give them humility. Certain politicians were openly countenancing the South. What was the result? The United States were not dead, were not anything like dead. War is not "a disease," although it may be called a disease at the Mansion House or elsewhere. A man who says war is a disease knows nothing whatever about the history of humanity. You may as well call jurisprudence a disease, or surgery a disease; or the institution of police forces in London and Dublin a disease. It is not a disease, but it is a preventive of decay. No nation ever yet perished by cultivating the arts of war. Here is Marsh's "Earth modified by Human Action," in which he goes into every cause of national and physical decay, and says that not one State can be found that ever owed its ruin to the art of war.¹ Many States can be found that owed their ruin to luxury and sensuality; Tacitus would tell you that, Euripides would tell you that.² The United States, far from being ruined, continued fighting for two years after Fredericksburg, renewed their youth like eagles by this war, and started on a career of unexampled greatness and prosperity. It is true they buried 300,000 of their soldiers in the national cemeteries in a few years; it is true they lost a thousand millions of our money; but they became a great nation. They would have sunk into luxury but for the war. The United States (dying, according to our critics in 1862), through practice in the arts of war, and through that only—because it was just as wealthy in regard to materials and energy, and the earning power of its inhabitants—alleged to be dying through the art of war, and through that only, were able to defy England a few years after and insist on the award at Geneva in regard to the cruiser "Alabama," which, with an English crew and English equipment, went about destroying American shipping. The same United States boldly challenged Europe in 1898, in the case of Spain. Spain was theoretically backed up by a large part of Europe, but an American, Admiral Dewey, was able to defy a German Admiral; the United States took Cuba, took the Philippines, and took Guam and Hawaii, and now, by San

¹ See Appendix.

² See Appendix.

Francisco, by Hawaii, they are stretching across the Pacific into the Far East.

Critics, writing essays based on what they wished instead of on what they knew, asserted that certain ruin would happen to the United States; these criticisms were published in the Press and were believed. People believe that prosperity discovers virtue. Prosperity discovers vice. Money is not and never was the sinews of war, which depends on the hearts and arms of men. It is adversity that discovers virtue. The adversity of war discovered the virtue of the United States. The United States have since played a prominent part in the counsels of the world, and what Power in Europe to-day would dare to contradict the United States, as to either the Monroe doctrine or the Panama Canal?¹

So much for the prophets, the wiseacres, in regard to the United States.

Now we come back to Europe. We have spoken about Japan, and I need not repeat myself; we have spoken about the United States. We come to Germany, and then we shall go to Russia.

How dangerous it is to prophesy may be shown again by an incident—perhaps now forgotten—which occurred shortly before the outbreak of the war between France and Germany in 1870. The Foreign Secretary of the day came down to the House of Lords, and less than a month before the outbreak of war between France and Germany in 1870, calmly assured our public and our financiers that there was not "one single cloud on the political horizon." Within three weeks of this optimistic statement by, after the Premier, the most important member of the Government, that great war, which, among other dramatic results, altered the whole political face of Europe, broke out—a war in which brain power at its altitude was for the first time thoroughly displayed since the days of Napoleon, when he intended to invade England, but, owing to our naval power, went East over the Rhine, and along the Danube, and destroyed Austria. There was brain power at its altitude on the part of the German General Staff, and the organisation and the mobilisation arrangements, equal in many respects to that exhibited and utilised by Napoleon: in point of fact, something that reminds us of those stupendous movements of population that are described by Herodotus, or those still more stupendous operations, the great invasions of Zenghis Khan or Tamerlane, spreading over Asia through Mongolia to Peking. This speech of the Foreign Secretary to whom I have referred, was delivered a month before the following events began:—Eleven days after the declaration of war, 19th July, 1870, the Germans poured 500,000 infantry, 50,000 cavalry, and 1,400 guns across the French frontier, fought two battles on the 6th August, shut up Bazaine in Metz, after Gravelotte, 18th August, took 83,000 French prisoners on the 1st September at Sedan, and were around Paris on the 19th of September.

After Sedan, and the fall of the Empire, Paris was invested, the people starved, and France lost £260,000,000 of our money in Indemnities alone, and the results of the war were at the bottom of all the leading conditions of European policy which have existed ever since. There was a change in the strategical aspect in the twinkling of an eye. The fall of the Third Empire at Sedan was followed by

¹ See Appendix.

an ultimatum from the Russians that they intended to tear up a Treaty—the Treaty of Paris of 1856. The Russians were quite right. Treaties are made to be broken and torn up, and the Russians, to give them credit, have always been admirable professors of the art of tearing up Treaties. They announced that they were tired of the Treaty of Paris; it suited them no more. Our Ambassador went to Prince Bismarck declaring that no nation, with any sense of honour, could ever stand such trickery. Bismarck replied: "What are you going to do? France is engaged and cannot help you." But a few days afterwards our Ambassador had to return and inform Bismarck: "We are going to do nothing; Russia has torn it up, and there is an end of it."

The steady advance of Russia in Central Asia since 1870 is also worthy of note. It was inevitable, the Russian hands in Central Asia were forced as ours have been in India time and again, and this ought to have been foreseen by our Statesmen. It was not, and the undignified bickering with Russia which ensued was not creditable to our diplomacy.

Russia went into Khiva in 1873, and ever since she has been pushing on from Khiva to the gates of India. An idea seems to be abroad now that one of the *contre coups* of the present extraordinary political situation in the East may be a Russian attack on India. I do not say so, but Mr. Balfour has made speeches in this sense.

Russia, of course, has now very serious troubles at home, as France had in 1793-5, and again 1871; and as England had in 1642-1689 and 1797. But nations don't perish after civil or any other wars. If they can only get rid of base rulers, shuffling politicians, luxury, vice, and waste in high places, they will soon recover.

Our politicians profess to be afraid of Russia's advance from the Caspian Sea, through Orenburg, Khiva, Merv, Samarkand, Tashkend, to Termes and Khusk Post, and then to Kabul and Kandahar. I point out all these strategic localities on the map of Asia. A map is an instrument of education; even ladies can obtain the utmost possible benefit by teaching their children something on a map. Here you have the great North-West Frontier of India; Tamerlane took 93,000 cavalry over these places. Rightly or wrongly, our leading strategic politicians seem to think that there is a danger in Russia getting too near India, and that it may cost you much money and severe strain, that you want some hundreds of thousands of men, and that it would be a very good thing for us at present if the Russians had not been so near as Termes and Khusk Post. Now, some thirty-five years ago a number of able travellers, Burnaby, O'Donovan, and others, travelled through Central Asia and studied the whole question thoroughly after the capture of Khiva. They saw the whole future; but the English Government would not see it. The Ameer of Afghanistan saw it clearly; he saw his territory was in some danger, and he hoped the English would do something to ward off all this danger. All our politicians received warnings year after year, clearly and distinctly, of the advance of Russia. The matter was before our Cabinet, and the Duke of Argyll was a Minister of the Cabinet. The Duke of Argyll was supposed to be a pre-eminently subtle Scot, a very excellent man, and a writer on philosophy; however, though metaphysics and diplomacy may be

nearly identical, metaphysics and strategy are opposite kind of things altogether. One is mere subtlety without force; the other is subtlety with force, which is a very different matter. I was a very young boy, but I remember reading a colossal book by the Duke of Argyll, a book that proved beyond all possibility of doubt that the Russians could by no conceivable process move from Khiva to Merv, 300 miles, in less than seventy years. I was amazed, boy as I was, because I had read of Alexander the Great traversing right through Asia Minor on to Egypt, and right across the great Continent to the Jaxartes and Chitral, down the Indus, and back again, and he did the whole journey of conquest in thirteen years from his start from Thrace. Yet we were told by the Duke of Argyll that the Russians could by no possibility get into Merv for goodness knows how long. That was in 1878. The Russians were in Merv in 1884, and in the lifetime of the writer of the book in question.

The third part of the subject is to try and outline the causes of the striking fact that in no particular is the international strategy of the present or future analogous with what it was in the years 1870 and 1871. I am afraid I am nearing my limit of time, but this is a matter that really ought to be taught to our people on every platform. We do not do as well as we might with our resources; we do not face facts; we do not recognise the truth; we are losing our backbone. It is all very well to attack the Russians. The Russians in my opinion have done splendidly. I wish I had time to quote from a book which is the correlative of Baron Suyematsu's. These are two epoch-making books, "The Risen Sun" and "The War in the Far East," by the military correspondent of the *Times*, a most admirable book. On pages 610 and 611 you will find weighty statements about the Russians and their splendid though badly managed soldiering. I was talking to a German strategist, and I said: "Do you think the Russians did badly in this war as against Japan?" admitting, of course, as we all do, that Japan did marvelously well, beyond all expectations—probably beyond the Germans themselves in 1870. No one expected the Germans would do so well then, and we did not expect Japan to do so well last year. The German officer in question, who knows all about the facts, and knows all European Armies very well, replied to my question: "Would you Germans have done as well against the Japanese as the Russians have done?" He said: "We would not dare to attack the Japanese in battle except in the proportion of three to two at the very minimum." I further asked him: "Am I right in saying that the Russians, as against the Japanese, did better than the three following races: Did they or did they not do better than the Federals in 1862 and 1863?" "Of course they did," he said, "much better." Well, we know that; the battles were fiercer, and the disasters were not so complete. Then I asked him: "Did they do better than the Austrians against yourselves in 1866?" Well, I might have known in advance the answer to that query: "Of course they did, infinitely better." Then I ventured to ask another question: "Did they do better than France against you in 1870 and 1871?" And he said: "Certainly." He was not carping at France in the least; nor am I, yet Russia did very much better, and for a much longer period. Now another warning. Why on earth were some of our Press, and some of our people, constantly nagging at the Russians during this

war? I could never sympathise with that policy. It is not the proper thing for the representatives of a great people to rejoice in the misery of any other people. It is not a sign of greatness to hooray and rejoice at the fall of any nation. It looks rather like poltroonery. But the Russians in point of fact had no Sedan, and yet the French were a great nation. Nor had the Russians disasters such as the Federal States of America endured, nor did they collapse in seven weeks like the Austrians.

Now to come to ourselves. It is generally believed that all the troubles in the Far East have been in a great measure due to our own official weakness, vacillation, and incompetence, 1897 to 1902. At any rate, Beveridge, Krausse and Weale are of this opinion. Are we ready to look after the interests which our French critic, Sorb, points out as the objects to be attacked? He says that the English are only keeping their Empire up by making a Treaty with this State and with that State, and by hoping that Japan will save India, and hoping France will let us alone. Is that true? Are the gentlemen in this room desirous that Japan should save India?

"In native arms and native ranks
The only hope of courage dwells."

Alliances are useful, undoubtedly. He is a fool who would say to the contrary, but the only person that can save a man's honour is the man himself, and the only instrument that ever saved a nation was the strong right arm of its people. It is not the Japanese who will save India; it is not the Himalayas that will save India; it is not wealth that will save India; it is not official intrigues which will save India; it is not the natives of India that will save India, because they are not an organised mass, and have not been welded together in one community for many centuries. What will save India? The present race of British men and women, and their children, and no one else.

There are tens of millions of prosperous peasants whose hoardings make of India the grand absorbent of the precious metals; tens of millions of peasants, beside whose poverty Fellahs or Sicilians or Connaught men are rich; millions of artisans ranging from the men who build palaces to the men who, nearly naked and almost without tools, do the humblest work of the potter. Every occupation which exists in Europe also exists in India. The industry of the vast continent never ceases, for India, with all her teeming multitudes, with a population in places packed beyond European precedent, imports nothing either to eat or drink, and but for the Europeans, would import nothing whatever. She is sufficient to herself for everything save silver. Amidst these varied masses, these two hundred and fifty millions, whose mere descriptions would fill volumes, the tide of life flows as vigorously as in Europe. There is as much labour, as much contention, as much ambition, as much crime, as much variety of careers, hopes, fears, and hatreds. It is still possible to a moneyless Indian to become Vizier of a dynasty older than history, or Finance Minister of a new Prince, whose personal fortune in hard cash is double that of the late Emperor William, or abbot of a monastery richer than Glastonbury ever was, owner of an estate

that covers a county, head of a firm whose transactions may vie with those of the Barings or Bleichroders. One man, Jutee Pershad by name, fed and transported the army which conquered the Punjab.

Well, see in imagination a Europe even fuller of people, but only full of brown men, and then see also this. Above this inconceivable mass of humanity, governing all, protecting all, taxing all, rises what we call here "the Empire," a corporation of less than fifteen hundred men, part chosen by examination, part by co-optation, who are set to govern, and who protect themselves in governing by finding pay for a minute white garrison of 65,000 men, one-fifth of the Roman legions—though the masses to be controlled are double the subjects of Rome—less than the Army of Sweden, or Belgium, or Holland. That corporation and that garrison constitute the "Indian Empire."

There is nothing else. Banish those fifteen hundred men in black, defeat that splendid garrison in red, and the Empire has ended, the structure disappears, and brown India emerges unchanged and unchangeable.¹

I quote from "Asia and Europe," by Mr. Townsend, who sets forth the philosophy of these questions with sage profundity. What is the safeguard of the British Empire in India? Is it the Himalayas or the Hindu Khush, or the Throne of Solomon, the Indus or the Ganges? Certainly not. No mountain ever yet saved a nation from invasion, or the Pyrenees would have done so, or the Alps would have done so. Did the Alps save Rome? They only enabled the Barbarians to surprise the Roman Empire all the more safely. What is the British Empire in India then? A certain limited number of civilians, and a certain limited number of British soldiers—that is the British Empire in India. What is the German Fatherland? Not the Rhine, or the Elbe, or the Oder, as the song says—not Bavaria or Prussia. The German Fatherland is the heart and brain and body of the German. Consequently, your only hope for any strategic movement is in yourselves.

I wish to set forth clearly and shortly—I have done so before, but this Institution wishes me to do so again—that no single part of the Empire, of which you are to-day members, from a strategic point of view, occupies the same position as did the Empire of which your fathers were members in the years 1870-71.

In the first place, you have practically got the carrying trade of the world, and consequently, as every gallant admiral here will tell you, must insure more heavily to protect it absolutely, though not in proportion to its value, like the owners of any other property. Then you were not only, as Captain Mahan says, a naval Power, but the naval Power. When the French Marines were taken prisoners at Sedan, when the French gunners of the Navy were dispersed in the fortresses round Paris, the Germans having no Navy, and the Russians having practically no Navy, you were not only a naval Power but the naval Power. I read to you at the beginning of this lecture, data which enabled you to see whether you are the greatest naval Power, as I honestly hope you are, and I am not going to discuss this point. I only say there are other Powers that propose to be naval Powers, and there are three who are not to be ignored even now. The French think they are a naval Power, so do the Americans, and the Germans

¹ See "Asia and Europe." By Meredith Townsend. Pp. 84, 85.

hope they will be the fourth, and recognise that their future is at sea—and hence their occupation of Kiao Chau, and their strenuous efforts to develop its potentialities. There are the United States, Japan, and France, which is better, according to French authorities, than we think, and probably Germany. So that whereas at the beginning of our period we were the only naval Power, now there are actually some others of great strength, and there are the probabilities of more coming on. Is not this a matter that ought to make you reflect and think it more desirable to train yourselves for arms instead of hiring condottieri to play games of ball for you? Your ancestors conquered France by practice of archery, not by playing ball, much less by looking at others playing ball for money.

There was another thing in 1870. I cannot remember the facts of that date, so I speak subject to correction, when I point out that in the year 1870-71 we were not conterminous with any other great Power except the United States. It is quite true our Empire had frequent military expeditions on the frontiers, frontier wars and small wars, and we had a serious struggle in Afghanistan, and a war in Abyssinia. By the way, Abyssinia is in a very different position now; even Abyssinia has changed enormously. As you will see in the papers of yesterday, with regard to railway questions and treaties with France and England, Menelik is a very different person from Theodore. But we were conterminous only with savage or semi-civilised States. Our frontiers were, therefore, not like the frontiers of Germany, France, and Russia, liable to be invaded suddenly by military Powers, led by the best military brains of the time. This has been said very frequently, but it bears repetition. You have the maps of the Navy League in your hands, and you will see we touch France on the Mekong; you will see that Germany practically makes a strategic movement against the flank of our Cape to Cairo Railway in Africa; you will see we touch the German Demara and Namaqualand, but that does not make much difference just now, as the Hereros and Hottentots are mobile operators on strategic fronts in these localities. Russia is very near at Termez and at Khush, and on the Pamirs. Then there is the United States, which, since 1870, has become a tremendous Power. Therefore, we are in a different position altogether from what we were in 1810, 1854, or 1871. These are ordinary everyday facts to most of the officers in this room, but then we are not governed by officers. We are not even governed by lawyers—not altogether—and that is a very good thing, but both these professions are composed of men of energy and ability, and accustomed to observe and command, and to weigh evidence. We are governed by the mass of the people and in every country, as Mr. Burke says, and as the author I have quoted says about Asia: even in Asia the despot is as much under the control of the mass of the people for his means of existence, and the continuation of his power, as is a President in a democracy. We are governed at present, and were, for the past generation, by blind leaders of the blind. We see in Russia to-day what state of things arises from such guidance, and we have been even worse led relatively since 1871 than the Russians. Talleyrand defined Russia's power as an absolutism, tempered by assassination. The mass of the people in every land are not the people who are rich, and have time to think, and read, and work if they will; the mass of the people are those who toil, and it is they who, in the last resource, have to be consulted in our nation. There-

fore, in a country with votes and politicians and vote catchers, you want to educate the people, and to begin with Members of Parliament; to do that you must certainly procure and circulate maps such as those which the Navy League has allowed me to give out to-day, and subscribe to Army Leagues and Navy Leagues, and National Defence Leagues. If bad party charlatans combine, so must good patriots combine, and clearly show the voters that they are perfectly inane if they think we shall get out of these tremendous complications which I have only had time feebly to indicate, rather than describe, without self-sacrifice. Hence you must teach them and set examples yourselves, of being true to themselves, their women, and their children, and of "screwing their courage to the sticking place," in the interests of that Empire on whose prosperity they all depend for their daily bread.

If you do not be wise in time as to housing questions, race questions, national education and military training, you will assuredly lose your position in one generation. Party-bound voters think that war is far away. Not at all. It is always within touch of you. It may be touching you in a territory, the loss of which would paralyse every home in England. Is a man in the room going to get up and say that the loss of India would not paralyse the home life of our people, morally and financially? I hope someone will do so; if he does, we will have an exciting discussion, and a war of words is better than no fight at all. The gallant Admiral I see agrees with me, and he has been in the Far East and I have not. But I have been in Stamboul, and I have consulted, for the purposes of this lecture, very able Frenchmen, Germans, Huns, Poles, Russians, Spaniards, and Turks, and strange to say, each and all depreciated the English and say they are perfidious to the last degree. So that you will not live on the admiration of foreigners. Any neglect, or any trimming, or any party trickery as to India, on the part of our rulers, will be a deadly outrage to the British Race.

The future of India is of vital importance, not only to our fighting man, but to our taxpayers, and it touches our honour, without which a Race is nothing at all—mere *Canaille*. One of the best features in the books of the Japanese is the one that dwells on the fact that a man is not only of the earth, but that he has a soul—let him cultivate honour. Let us shake off the earthly form and weeds of Thyrsis:—

"The soul that rises in us; our life's star,
Hath had elsewhere its setting,
It cometh from afar."

Successful strategy, in the future as in the past, will depend, like all human greatness, on the qualities of the Race, especially in the brain and on the soul. You must eliminate slum life and slum thought from the poor, and "week end" life and "week end" thought from the rich. Irradiate your souls, men and women together, with a new pleasure—the sacred passion and lasting pleasure of Patriotism, which will grow with your growth, and strengthen with your strength, and not decay with old age.

Again, there is another serious problem that was not of such imminent peril in the year 1870-71. As years pass we are more and

more dependent on territories outside our Isles for our food supply. The map will tell you where we get our materials for industries and our food, nor has this problem escaped the attention of Captain Sorb and other critics. He said that France is in no danger, because after all you cannot materially injure France by sea Power. He says that we might annoy France and bombard a place or two, but it would do us no good; "but," he says, "what about the English? You will have no food, if you lose naval power you lose the materials of your industries; your working classes will be idle and starving. You are in the most peculiar position in which any nation ever were placed." Even Rome, when it was enjoying its gladiatorial sports, much superior to football matches, was not in anything like such a position, nor was Constantinople before its sack by the Crusaders. We are the only nation with such responsibilities, who could not live for three or four months on the produce of our own islands. That is a strategic position which you may find before many years is awfully important; but it has been fully discussed by Captain Stewart Murray and eminent mercantile, as well as naval and military experts in this hall.

Well, I have discharged my task by indicating rather than teaching the lessons of the past. We have heard out of the mouths of the most eminent people living what they think of the position, and no recondite knowledge is required to acquire data for a sound judgment. You can procure all the information you require, strategic maps included, for a few half crowns. Our rivals are very considerate, and tell us the whole truth. You can read their speeches and views every morning in your own daily press, which is admirably served with regard to intelligence. You can take up any Encyclopædia and read the doings of our diplomatists for the past thirty years, and the essays of our dialectical political strategists are issued in cheap pamphlet form. You have read of the consequences to other communities of military apathy? What do you propose to do? To muddle away? To continue apathetic, or awake and arouse yourselves like strong men after sleep? You have command of the sea. Will you keep it? Look at Australia. Are you going to leave Australia at the mercy of the Japanese and Chinese? What about New Zealand? I wish to goodness they had kept their football players at home. Their games prove nothing, except the degeneracy of the spectators. What about India, that great strategic centre? Singapore? Are you going to abandon or keep it? We have a splendid position there. Hong Kong, South Africa, East Africa, West Africa, the present strategic value and tremendous potentialities of Canada. Surely, here on this map of our Empire are conditions of greatness if properly co-ordinated far beyond all Greek, far beyond all Roman fame. If we do our duty as well as our ancestors did in 1805, this Empire will be strengthened and confirmed in strength to the honour of our rich folk, and the mental and moral elevation of all classes of our community.

"One strong great Empire must that be;
Oh, God in Heaven! we look to Thee
To give us courage, strength, and skill,
To keep it safe from shame or ill."

APPENDIX I.

PRINCIPAL CAMPAIGNS SINCE 1870.

- 1870-1.—Franco-German.
 1876-8.—Balkan Peninsula and Armenia.
 1878-1880.—Afghan Wars—two of 60 small campaigns by British in this period, most of which, like Zulu, Chitral, Tirah, Boer War of 1881, etc., we omit.
 1882, and at intervals till 1898.—Egypt and Sudan.
 1894-5.—Japan and China.
 1896.—(Adowa), Italians defeated by Abyssinians.
 1897, April and May.—Turks smash Greeks.
 1898.—America smashes Spain.
 1899-1902.—South Africa.
 1900.—China War. Peking taken by Allies.
 1904-5.—Russo-Japanese War.

APPENDIX II.

PRESIDENT ROOSEVELT'S FOREIGN POLICY.

From the *Times*.

In foreign affairs no less than in questions of internal policy, President Roosevelt is not the man to shrink from taking part in the solution of any problems that may present themselves. He has been telling the people of Richmond that the Americans are a great people and must play a great part in the world. It is not open to them, he says, to choose whether they will play that part or not. It is only open to them to play it well or ill. Things move quickly at the present day, and it is easy to forget that only a few years ago such language was never heard from American lips.

The dominant view until quite recently was that America had to maintain the Monroe doctrine, and for the rest to let the world go its own way. That mode of thought has gone for ever, and world politics have to admit new factors from the West as well as from the East. In his speech at Jacksonville, the President took the same high ground in referring to the relations between the United States and the Republics of the South. He reaffirmed his view that the United States must police the Panama Canal district and possess for this purpose an efficient navy and the control of the strategic approaches. But he was careful to add that the United States did not desire another lot of territory, and that if ever it was necessary for them to interfere in the affairs of any of their neighbours, it would be with the sincere purpose of being beneficial to the peoples concerned. No one will imagine that the President is other than genuine in his desire to further the best interests of the ill-organised States which border on the Caribbean, but the rôle of international policeman has many difficulties and dangers attached to it, and we can only hope that untoward circumstances may not call upon him to play it.

APPENDIX III.

CAPTAIN SORB QUOTED.

Translated from Captain Sorb's book, published, 1905, by Chapelot, p. 8:—

"France has hitherto had only one policy—it contemplated war against the Triple Alliance. But the expansion of its colonial domain compels it to consider henceforth the probability of a struggle with England, and we must study the best means of attacking the commerce of that Power."

Page 13:—"We were obliged to retire shamefully from Fashoda, because the French fleet was absolutely unfit to combat that of England."

Page 324:—"For quite a long time the European nations were absorbed in military preparations, while Great Britain lived in perfect quiet, and was proud of her splendid isolation, but since France, Germany, and Russia began to organise their fleets, it was necessary for her to shake off her torpor."

ENTENTES CORDIALES.

Page 331:—"Let us not then cease, in spite of passing *ententes cordiales*, to contemplate, in a future more or less distant, the perspective of a war against England, and proceed more actively than ever to take the necessary measures for its preparation. Let us show our neighbours that while keeping on excellent terms with them, meanwhile we won't fear, ourselves alone, to enter into a contest with them in which we may well be victorious, especially when the British naval organism will necessarily be enfeebled in consequence of a struggle with Germany."

Page 331:—"England is to-day in a state of unstable equilibrium. Great Britain only maintains its position by shifty devices and transitory arrangements, which enable it to keep alive as it were from day to day. Her future is always uncertain, and the least accident, brought about by a continental alliance, would cause the complete foundering of her 'Colossus with feet of clay.'"

"On the other hand, France can consolidate her position by the adoption of a far-seeing policy, supported by certain and durable alliances."

APPENDIX IV.

SIR E. BARROW ON THE PROBABLE CONSEQUENCES OF THE ANGLO-JAPANESE TREATY.

National Review, October, 1905.

A most interesting article is contributed by Lieut.-General Sir Edmund Barrow, K.C.B. It is entitled, "The New Balance of Power in the Far East," and as a prelude the writer gives the reader some extracts from two articles contributed by him to *The United Service Magazine* in the years 1893 and 1895. In the article of the former year he gave a description of the Japanese Army of that period, which recent events have proved was an accurate one. Sir Edmund described

it as admirably organised, splendidly equipped, thoroughly drilled, and cheaply and honestly administered. In the article written in the year 1895—a sequel to the previous one—the conclusions and predictions which he arrived at so far back have been most strikingly verified by recent events. Sir Edmund summarises in the present article the immediate results of the Japanese War, with its corollary the new Anglo-Japanese Treaty, as follows:—

1. The supremacy of Japan in Korea.
2. The preponderance of Japanese influence not only in Manchuria, but also in the councils of Peking.
3. The domination of the Asiatic shores of the Pacific by the fleets of Great Britain and Japan.
4. The position of sullen impotence to which Russia is reduced in Asia.
5. The discomfiture of German political aspirations in China.

Sir Edmund then considers the influence these results may reasonably be expected to have on the course of events, and the political strategy which the new situation demands. The deductions which he draws are:—

1. That the interest of foreign countries outside the Alliance may be seriously compromised by the new situation, and that, thanks chiefly to China, the sources of international friction have been augmented rather than diminished.
2. That the regeneration of China from within is an impractical aspiration, and that foreign pressure may easily produce an acute crisis.
3. That though the commercial exploitation of China is a problem for immediate solution by our mercantile classes, we shall in the future be confronted by the real "yellow peril," in the shape of the formidable commercial and industrial competition of a fully developed China.
4. That Japan may, by the force of circumstances, become a dangerous rival or even an adversary instead of an ally.
5. That federation with our Australian Colonies may be quickened by this very danger.
6. That no reliance should be placed on the direct support of Japan for the protection of India.

From the above deductions the general conclusion that may be drawn is, that though the new balance of power in the Far East is unquestionably to our present advantage, it contains within itself many elements of disturbance and danger. Sir Edmund, who is an ardent student of the Far Eastern question, writes with a knowledge and acumen that places him in the front rank of authorities on this intricate subject.

APPENDIX V.

EURIPIDES ON GAMES AND MILITARY EXERCISES.

I've often blamed the customs of us Hellenes,
Who, for the sake of athletes, meet together
To honour idle sport and feed our fill:—
But who, I pray you, by his skill in wrestling,

Swiftmess of foot, good boxing, strength at quoits,
 Has served his city by the crown he gains?
 Will they meet men in fight with quoits in hand?
 Or in the press of shields drive forth the foeman
 By force of fisticuffs from hearth and home?
 Such follies are forgotten face to face
 With steel. We therefore ought to crown with wreaths
 Men wise and good, and him who guides the State,
 A man well tempered, just, and sound in counsel.

Euripides, if alive again, would be a strenuous lecturer for the Navy and Army and National Defence Leagues.

APPENDIX VI.

IGNORANCE AND GAMES.

Tactitus Dialogus.

Iam vero propria et peculiaria hujus urbis vitia paene in utero matris concipi mihi videntur, histrionalis favor et gladiatorum equorumque studia, quibus occupatus et obsessus animus quantulum loci bonis artibus relinquit? quotum quemque invenies qui domi quidquam aliud loquatur? quos alios adulescentulorum sermones expicimus, si quando auditoria intravimus?

APPENDIX VII.

ANGLO-GERMAN RELATIONS.

24th November.

The speeches delivered last night at a meeting organised in support of the new Navy Bill by veterans of the German Students' League were characterised by a decided Anglophobe tone.

Professor Wagner, the well-known lecturer on political economy at Berlin University, said that British hatred of Germany was solely due to jealousy. Germany must have a strong fleet to guarantee her independence, and the German workman must remember that if Germany were defeated the workmen would have to suffer most. There were many, he continued, who desired to see Germany defeated, and there were people in high places who were doing their best to bring it about. Did anyone believe that England would respect neutral harbours? England for centuries hindered the humane development of maritime law, so that even now piracy was rife. No people in the world were more hypocritical and brutally egoistic than the British. After alleging that it was to England's advantage to keep France and Germany apart, Professor Wagner pointed out that German finances, which, as an expert, he was able to declare were the soundest in the world, permitted the Navy to be increased.

General Liebert said that he was no Anglophobe, but he would endorse the saying that whilst respecting England and being always ready to learn from England, it was necessary to maintain the strongest defence against England.

APPENDIX VIII.

GERMANY AND ABYSSINIA.

The Emperor has publicly declared that if the Powers do not, within a reasonable time, present a scheme for his approval, he will undertake the construction of the line from Diré Daoua to Adis Abeba without their assistance. Dr. Rosen's mission has been followed up by the appointment of a German Minister at Adis Abeba, and it was recently reported that the Emperor Menelik is making preparations on an unusually magnificent scale for the reception of the new Minister. At present German commercial interests in Abyssinia are small almost to insignificance. But a contract secured by a German firm to build and finance the railway to Adis Abeba would completely change the situation. It can scarcely be to the interest of either France or Great Britain that, *mutatis mutandis*, the Morocco imbroglio should be reproduced on the other side of Africa. An alternative proposition has been mooted, by which the newly-established Bank of Abyssinia would provide the Emperor with the funds for the construction of the railway in his name. From one point of view such a proposal would perhaps be less open to objection than if the Emperor were to accept German assistance, but it would scarcely tend to strengthen the *Entente Cordiale* if a bank with its headquarters at Cairo were to secure a contract to which a French company believes that it has a prior right. Yet France can scarcely with reason invite the British Government to use its influence with the Bank of Abyssinia to prevent that institution from securing business which might otherwise go into German hands.

APPENDIX IX.

GERMANY IN AFRICA.

In Africa the principal German possession is her large and practically barren colony in the South-West—"light soil," as the late Lord Salisbury would have called it—which, in all human probability, will never be worth the blood and treasure which Germany is spending upon it at the present moment. In East Africa, too, she has a troublesome war on hand; but German East Africa is by far the more valuable asset of the two. It has a fair chance of becoming remunerative, and its strategic value is unquestionable, for it stands between our own possessions in East and Central Africa, and commands the route from the Cape to Cairo. Whether it will pay or not is another matter.

APPENDIX X.

Marsh, the American author of "The Earth as Modified by Human Action," says, page 395:—

"War develops great civil virtues, and brings into action a degree and kind of physical energy which seldom fails to awaken a new intellectual life in a people that achieves great moral and political results through great heroism and endurance and perseverance. Domestic corruption has destroyed more nations than foreign invasion, and a people is rarely conquered till it has deserved subjugation."

APPENDIX XI.

PRINCE GORTSCHAKOFF ON THE RUSSIAN ADVANCE.

In reply to remarks by England in 1864, Prince Gortschakoff, Russian Minister of Foreign Affairs, protested that the Russian Government had no desire to extend in Central Asia. His explanation is very interesting. I quote Niox "*L'Expansion Européenne*," page 108:—

"Lorsqu'un état civilisé se trouve en contact avec des peuples dont l'organisation sociale est rudimentaire, il arrive toujours que l'intérêt de la sécurité des frontières et celui des relations du commerce exigent que l'état le plus civilisé exerce un certain ascendant sur des voisins que leurs mœurs nomades et turbulentes rendent fort incommodes.

"On a d'abord des incursions, des pillages à réprimer; pour y mettre un terme, on est forcé de réduire à une soumission plus ou moins directe les peuplades limitrophes.

"Une fois ce résultat atteint, celles-ci prennent des habitudes plus tranquilles; mais elles se trouvent, à leur tour, exposées aux agressions des tribus plus éloignées. L'état est obligé de les défendre contre ces déprédations et de châtier les pillards et qu'on se retire, la leçon est bientôt perdue; la retraite, surtout dans l'esprit des peuples de l'Asie, est mise sur le compte de la faiblesse; il faut donc poser les bases d'un système sur des conditions géographiques et politiques, fixes et permanentes."

Captain P. A. CHARRIER, Royal Munster Fusiliers:—I should not have reason to address the meeting were it not for the fact that Dr. Miller Maguire asked me whether the *Entente Cordiale* was of very great value to England. I have read a great deal about it, and made considerable enquiries with regard to it, and so far as I know the people in France do not seem to lay much stress on it. They certainly would not go to war just to please us. In fact, as far as I can make out, they are extremely peaceful in France. They would not take up any question in which we were concerned unless of course there seemed to be a very great advantage to be gained by it.

Captain CECIL BATTINE, late 15th (the King's) Hussars: It is a very bold thing to disagree with the lecturer on strategy, but there is one point at any rate on which I should like to join issue with him. In tracing the changes in the International strategic position since 1870, he has dwelt, as I think unduly, on the importance to us of the situation in Central Asia, and on the Indian Frontier. I have never believed that the annexation of India was really threatened by Russia. I think Dr. Maguire himself in some way points to that by his admiration of the Russian people, and his admiration of the way they have extended trade and commerce, railways, and civilisation towards the Far East in a perfectly legitimate manner. It must be remembered that the British policy has been systematically to thwart the expansion of Russian power, and it seems a perfectly legitimate and natural retaliation on their part to threaten the nearest British territory; but that does not mean they necessarily covet that territory. I cannot help thinking that the last thing they wish is to be established rulers of India; but they certainly mean, and have meant, that if we go on interfering with their legitimate expansion, they are prepared to resort to reprisals as best they can.

Furthermore, I think that if strategy had been better understood, and history and geography more extensively studied in English schools, especially in the public schools and Universities, where our Statesmen and Members of Parliament are educated, the immense difficulties in the way of invading India would have been better appreciated—difficulties which have to some extent, it is true, been reduced by the extension of railways, but which are still gigantic. Since Lord Kitchener has been Commander-in-Chief in India it may be said that measures have been taken which render all chance of a successful invasion of India impossible at present, and for some time to come. Furthermore, although the Hindoo is not able to defend his own territory, still there are undoubtedly in India populations from which forces far larger than those at present under the British colours can be obtained. What we want in India is what we want in England, namely, a sound system of military organisation, which would make the best of the magnificent material we possess. To quote Sir Charles Dilke, the centre has changed now from the Indian Frontier to the Straits of Dover, that there is much more risk of hostile invasion of our territories nearer home than there is in India. It is true our fleet at present is so formidable that no European fleet, and no combination probably of European fleets, would have a chance against it; but it does not follow this state of things will last for ever, nor does it follow that the new fleets being built will be on our side. Weakness is the surest temptation to another country, and to a coalition, to attack us. Dealing with the case of France and the views expressed that there is an influential party in France not very keen about the English alliance, that is very easily understood. It would be a very small consolation to the people of Paris, if they were being bombarded and besieged, to know that the British fleet swept the Channel and the North Sea. So long as we can put an army into Belgium, or on the flank of the French army, which is strong enough to turn the scale in a war, or even to render doubtful the issue of a war with Germany, I feel sure that we can count on allies on the Continent, just as certainly as we could in the days of Marlborough and Wellington, when we were able to put such an army in the field as eventually to turn the scale in both the great Continental wars. For it was Marlborough who checked the victorious career of Louis XIV., and it was Wellington at the crisis of the war against the French Empire at Salamanca, Vittoria, and Waterloo, who eventually turned the scale, and it was a British army that ultimately occupied Paris. If we are to be able to check the dominant Power of the Continent, it must be under the same conditions; we must have an army, if not strong enough to compete with the armed forces of Germany in a single duel, at any rate strong enough to enable the French successfully to defend their independence, because their very independence and existence will be threatened in the next war between France and Germany. I have said that the problem is the same in India as at home, and that what we have to do both at home and in India is to organise the magnificent material we possess. I think we may perhaps go too far in the direction of running down our own people. No one more than myself feels that there is room for criticism against the lackadaisical carelessness of our rulers in the highest situations during the last ten years; but I think we can go too far in that direction. I am certain there is no other country in the world that could be depended on for two years running to supply, as we regularly do, 100,000 voluntary recruits to the various Services. With great regularity 100,000 men enrol themselves in the military service of their country of their own free will every year, and a

great many more offer themselves. Very much more use might be made of the services of these men. I think a great deal might be done to enable them to serve in such a manner that their economical interests would not be injured, and that so far from their losing money, and losing a chance of starting life by serving their country, their services in the Army might be arranged so as actually to help them. It must be remembered that countries like France and Germany maintain their Armies for a double purpose; they not only exist as schools for recruits and officers, but also for organised forces which must be prepared at a very few hours' notice to resist invasion day and night. No such necessity exists, or can exist, in England so long as we have a fleet on the sea. We are in the position to use the whole of our military organisation purely as schools for the training of the troops, and that we do not do so is not the fault of the people. The majority of the voters, although they have the cheerless homes Dr. Maguire has so eloquently described, are marvellously patriotic, and take a wonderful interest in the prosperity of their Empire. It would be surly to begrudge them the pleasure they get in watching that magnificent New Zealand fifteen who win match after match against our English football teams. There is one other thing I should like to allude to, and that is the very unfortunate comparison made by the Prime Minister of a warlike country in saying that war was a disease. It should be remembered, however, that he had a very mixed audience to appeal to. There are many people who have been brought up, without knowing what they are talking about, to talk of war as very wicked. It is an absurd thing for a country that rules a huge Empire by the power of the sword, which it has conquered by force, to talk about war as a disease. Accepting the metaphor, there is, however, such a thing as antiseptic surgery. There are surgeons who can be depended upon to do their best honestly and fearlessly, and there are also Chinese surgeons who resort to old-fashioned methods, harmful drugs and incantations. We should apply the principles of modern surgery to our International position, to the strategic education of our people, and to the tactical education of our troops.

His Honour Judge RENTOUL, K.C., LL.D., City of London Court :— I have very great and excellent qualifications for speaking on the subject of the lecture, namely, that I know absolutely nothing about military strategy from any possible point of view; but after twelve years' experience in the House of Commons I learned that knowledge of a subject is not an essential qualification for making a speech, and that, in fact, knowledge of the subject is rather a detriment to one's eloquence than otherwise. I am sure that I shall rise in the estimation of Dr. Maguire at once when I tell him that I never played football, golf, or cricket, either on a Saturday, Sunday, or any other day, in the whole course of my life. I always had one very strong idea throughout my Parliamentary career, and that was, that no amount of money that we were spending on our defensive forces in this country was more than enough. I always thought that spending money on a force to defend this great Empire was spending money as a great national insurance, and was money extremely well and extremely wisely spent. Men often deplore the money they spend in insurances. Why are they sorry about spending it? Simply because the house was not burnt at any time, and therefore the money was lost. But if a time should come when the house was burnt down, then they would find that insurance was a very wise thing indeed. There is a fear amongst the people of this country that if we went in too

much for improving our defensive forces we should suffer from what is called militarism, and that the great force and power of this country, namely, our commerce, might suffer neglect and decline. But if one takes Germany as an illustration, and remembers what attention Germany gives to the Army, and then observes that in commercial enterprise Germany is leaving us behind at the present time, one sees that attending to our forces, even to a very great degree, and compelling the people to be trained in order to defend themselves, does not interfere in the slightest degree with the commercial enterprise of the country. I remember when I was a student in the University of Berlin, our Ambassador at that time was Lord A. Loftus, and the Old Emperor was in the habit of being very jocular at times with the Ambassadors. One day he said to Lord A. Loftus: "My lord, you must admit, I am sure, that the Germans are superior to the English." "Well," said the Ambassador, "might I ask your Majesty in what direction?" "In every way," said the Emperor. "Well, to particularise, in what one department are the Germans so superior to the English?" The Emperor replied: "In education, for instance." He thought he was on firm ground there; but the Ambassador said: "What department of education, your Majesty, for education is a big word?" "Well," said the Emperor, "for instance, in speaking foreign languages; 70 per cent. of the educated people of Germany speak a second language, whether with a Parisian accent or not, whereas not 10 per cent. of the educated English are in that position." "That is so," said the Ambassador. "But your Majesty must remember that we have not had the same educational advantages as your subjects have had; we have not had the same opportunities of learning foreign languages practically." "How so?" asked the Emperor. "Because," said the Ambassador, "we have never had a foreign foe holding possession of our capital city, and living amongst us, so that our educational opportunities have been somewhat limited on that account." That story delighted all the English who were in Berlin at the time, and it is a proud boast that our capital is the only capital of any great Power in Europe that can tell that tale. May the day be far distant when we shall no longer be able to tell it. We trust that we shall never see the foreign foe holding possession of our capital city. At the same time, talk such as one often hears at a city dinner, for example, late in the evening, about the impossibility of anybody touching England from any possible point, or about nobody being equal to us in anything at all—well, that is all very well for an after-dinner speech; but we shall have to walk along the lines on which other nations are walking if we intend to keep the position which we have at the present time, with an Empire scattered over the whole world. I quite agree with Dr. Maguire that International Law is pure rubbish. I also agree with him with regard to metaphysical strategy. I do not know anything about military strategy, but I know a great deal about the very wide-spread strategy one sees very often in the Old Bailey—the strategy of house-breaking and picking pockets. But International Law is, after all, merely a code of etiquette at the best, which one breaks exactly when it suits one so to do. Therefore, for us to rely on International Law, and in any way to neglect attending to our defences a great deal better than we do at the present time, is certainly not a wise thing. I am sure we have all benefitted very much by the light that has been thrown on this subject to-night. Metaphysical strategy is not good strategy, I should say, and Dr. Maguire was certainly not metaphysical in his remarks to-day; he was extremely pointed. Metaphysics has been defined as one man explaining a subject of which he

knows nothing to another man who does not understand him; but I am sure that Dr. Maguire was explaining a subject he knew, and, as far as our limited capacities go, I hope and believe we understood him.

Admiral the Hon. Sir EDMUND FREMANTLE, G.C.B., C.M.G. (Rear-Admiral of the United Kingdom):—I have very few words to say, but I wish to bear witness to the great importance of the subject and the manner in which Dr. Maguire has put the whole question of strategy before us. Of course, we all thought he was going to talk nothing but strategy, and we all knew he would be extremely amusing and interesting, and we were not disappointed. What struck me more particularly was the stress which he laid upon the human element. It is a question of the greatest importance, and all strategy would be of no value whatever without the human element being taken into consideration; in fact, unless we are the strong man armed we shall not keep our house. The difficulty arises chiefly at the very beginning of the subject, and we must look to the root of the matter. It is a question of the schools. What do they teach in the schools at the present moment? They teach, as far as I can make out, selfishness, and the way to get on. What they ought to teach is patriotism, self-denial, and self-sacrifice. Now, why is it that in this country we cannot show the national flag in the schools? Why is it that in America they almost worship the national flag? Somehow or other there is the greatest difficulty in introducing anything in the shape of a national spirit into the schools, although I am happy to say there is a change in that direction, and that we are improving. The next generation, if the Empire lives as long, I believe will be more patriotic than the present generation; I see signs in that direction. But we must make sacrifices; we must have less luxuries, and must be more determined to carry out to the best of our ability whatever work we have in hand and give a little less time to play and to amusement. There is no doubt about the extreme difference between the strategical position of this country, as compared with other countries, from what it was in 1870 or 1871, and I am very glad Dr. Maguire has called attention to that. But, after all, I rose merely to say that I entirely agree with him as to the necessity for something like self-sacrifice. What is it that the great Free Trader, Adam Smith, says? We know very well that he was a great advocate of commercial freedom, and for removing the restrictions of commerce, but he spoke very strongly and wrote very strongly in favour of the navigation laws, his argument being: "Security is of much more importance than opulence." Have we not in recent years, in the development of our ocean trade, as well as in other directions, given way to opulence, and made everything subservient to the idea of wealth and the idea of increase of trade? Have we not in many respects disregarded the question of security? That is the point which we have to bring home to our countrymen. I am very glad that we have such inspired lecturers as Dr. Maguire, and I am sure if his voice could be heard throughout the country, and people would give due weight to the words which fell from him—words explaining so eloquently the position we are in—we should not rest a moment longer before we put our house in order.

Dr. T. MILLER MAGUIRE, M.A., LL.D., Barrister-at-Law:—My function in regard to replying to the discussion will be simplicity itself, as I have to say that I agree with nearly every word that has been said. In regard to the last speaker, I can return his compliments a hundredfold. Since I have had the pleasure of knowing Admiral Fremantle he has

been foremost in every good work. Whenever I go to a meeting or a deputation for any patriotic cause I am not long there before I hear his cheery voice and listen to his sage remarks. I quite agree with him, and his experience is not merely derived from second-hand writers. I believe he was in the Far East and saw the Japanese almost in their embryonic stage, and he has watched their progress ever since. Preceding the Admiral was Judge Rentoul, who has an extraordinary faculty of letting cats out of bags, and some of his remarks I wish especially to refer to. The Judge hit the nail on the head over and over again. He specially pointed out the absurdity of talking about militarism. Of course it is an absurdity. Hired condottieri ruffians, who went about plundering in the Thirty Years' War, or even feudal tyranny or Bashi Bazouk raids and robberies, are of course most outrageous and deplorable; but a nation that is not ready to fight, or a man who is not ready to fight, even in a Law Court if not in tented fields, is no use whatever. The very Turks and Saracens fought for religion. No modern State has the slightest desire for pure militarism. Certainly a soldier who is fond of campaigning for the love of campaigning must be a peculiarly constituted man. The only nation that adopted this nonsensical view about militarism, as is pointed out by my friend Baron Suyematsu, were the Chinese. He says that the Chinese are absolutely the only large community of people who ever showed by their literature and practice that they really, like some of our public speakers, despised the Art of War. They were so numerous, however, that they absolutely absorbed their Tartar and Manchurian conquerors, who became more Chinese than the Chinese themselves. All the people who came down from beyond the great central ridge of Asia or from Mongolia to conquer China were absorbed like an injection into the blood, and the Chinese are numerous and rich still, and able to retaliate on Americans and Europeans. But the result of their non-militarism is that they have been insulted and beaten again and again, and, having no sea-going fleet, they adopted a plan of exclusion—an absolute alien exclusion system of the most comprehensive type for ages. But even these exclusive barriers have been forced open. They have a word which I cannot pronounce, and to which Baron Suyematsu refers, which means "utterly disgusting thing called militarism." But the ideas underlying that word brought the allies to Peking, and that word is what enabled the Manchus to rule the Chinese. However, there are signs that the Chinese propose to shake off their apathy and to drill and to arm and to hold their own again. I was very glad indeed to hear Captain Battine. Although he did not say much about himself, I am going to say something about him. Captain Battine has produced one of the best books on the American Civil War that has been written. It is a very valuable book indeed, with many valuable lessons on strategy set forth technically. But to-day he was dealing with the broader foundations of the subject and how it affects our business and comes home to our bosoms. Captain Battine's remarks were extremely wise and strategical, but it would take a long time to follow them. I cannot help agreeing with him in every particular; but if the gallant officer thinks I want to depreciate the British race in any particular he is wrong. What I want to do, if possible, is to see that we are able to talk to our enemies at the gate by being prepared in time—that is all. I was not born in either Paris or Peking, as could be easily seen when I spoke French and Chinese. I only want to enforce the one great lesson of all History, that the cheapest policy is to be prepared for war at any time. If the Americans had had ready two army corps in the campaign of 1861

of which Captain Battine is such a master, the Civil War, which was over in their favour in 1865, would have been over immediately in 1861, as Sherman proved in advance. What is the use of continuing a war for four years that might be over in four months? What is the use of spending a thousand millions of money when, by taking General Sherman's advice, the whole operation could have been completed for thirty millions of our money? What a ridiculous person I should be to stand up here and pretend to depreciate the British, because I belong to this nation as much as any of them. But the British Empire was not made by football players or cricket or golf players; it was made by workers who never played. Take our last war. What on earth was the use of our people spending 250 millions and losing 20,000 men in two and a half years in South Africa through mere folly and political drivell by so-called sportsmen, when, if they had listened to officers who spoke in this room and their own advisers—men like General Baden-Powell and General Butler and Lord Wolseley—there might have been no war. If they had listened to the General on my left or read this little book on scouting, to my certain knowledge they would have saved themselves many men and much money. If they had taken the advice of any class of wise folk outside their own narrow and ignorant fashionable sets of ball players and idlers, we should have finished that war at an expenditure of forty millions at the most; and we are suffering to-day, every one of us is suffering from indirect losses due to mere incapacity. I am simply telling you the mere facts of history. As to Captain Charrier, I think he is a bit of a diplomatist, because I know that he is one of the most deeply read men on strategy in this room, and one most conversant with these matters. However, as he agreed with me, I feel complimented. Criticising the *Entente Cordiale* is not the best way to get very popular in certain political societies at the present moment, and I was rather fidgety about being obliged to depreciate its value, and therefore I am glad to find that my views, which I expressed modestly, are supported by such a competent authority as Captain Charrier. I only want to warn you against trusting to anything but that which Lord Bacon said is the true source of greatness in the work-a-day world. We must not trust money, nor machinery, nor alliances; we can rely on nothing—nothing except the heart and brain and sinews, trained and well organised, of our great people. I wish everyone was full of burning enthusiasm for our national greatness and the elevation of the masses of our people. With all its faults, our little insular State has a splendid record, and is worthy of all our best energies.

"She's not a dull and cold land,
No! she's a warm and bold land;
Oh, she's a dear and old land,
This native land of ours."

The CHAIRMAN (Major-General R. S. S. Baden-Powell, C.B.):—We have had a long meeting, and I will not detain you much longer; but I should like to say that I think this lecture and the speeches we have heard in the discussion have been such that we ought to carry away with us many thoughts, and we ought to read the whole thing a second time when it is published. The subject is a most important one, not only for us who are soldiers and sailors, but more especially for those outside the Services, our legislators, statesmen, and merchants, and all those who have the interests and welfare of the country at heart. This lecture is most valuable in teaching us those great reasons why an adequate armed

insurance is necessary for our country. That insurance must be adequate. It is for our countrymen to see that it is so if they want to keep our present widely-extended rich Empire. We must be prepared to face any enemy, who would otherwise say :—

“Without the iron to guard it and hold,
Where is the good of your store of gold?”

It is our countrymen who must look to it that we have adequate forces to do that. They must understand that hysterics are not patriotism; and they could not do better, after studying this lecture, than read that work by Major Stewart Murray: “The Peace of the Anglo-Saxon,” and also that little brochure: “The Rise and Fall of the British Empire,” because those books have their lessons in connection with this survey of International strategy that Dr. Miller Maguire has given us this evening. Another point they would do well to remember is the axiom of Von Moltke: “That a nation gets the Army that it deserves,” and that it is their own fault if they do not get a good Army and an adequate one. That is the thing our countrymen must insist upon getting, namely, a well-found Army to second the Navy in its work of defending our dominions. I need hardly say that our most sincere thanks are due to the lecturer for the able manner in which he has put forward the subject this evening, and I therefore beg you to accord him a hearty vote of thanks.

THE HEALTH CONTROL OF THE ARMY: A CONTRAST.¹

By Lieut.-Colonel W. HILL-CLIMO, M.D., A.M.S. (Retd.).

“Frederick the Great, in speaking of officers who relied on their practical experience alone, caustically remarked that there were in the Army two commissariat mules which had served through twenty campaigns; ‘but,’ he added, significantly, ‘they are mules still.’ To draw all the good out of practical experience, reflection and comparison will be impossible unless the brain has been trained to think and the mind is stored with the knowledge of the past.”—*The Science of War*. By Colonel G. F. R. HENDERSON, C.B. Edited by Captain NEILL MALCOLM, D.S.O.

AS nearly four years have passed since the close of the South African War, the time seems opportune to consider whether the changes which have taken place in Army Medical organisation meanwhile are adapted to secure the physical efficiency of the Army, and medical preparedness for war. At first sight the association of these conditions may be thought to be a mere hypothesis; but in the course of this paper it will be shown that they are inseparable, for the physical efficiency of an Army in war depends upon effective health-control during peace, and the medical service in its exercise obtains the practice and experience which best qualify it for its most important duty, which is the prevention of epidemic disease in war.

To understand what is the present position of the medical service towards health control, it will be necessary to enquire what were the previous changes which had taken place in its organisation, and what was the effect on its capacity to perform this duty. The first was the institution of the Army Medical School in 1860 by the late Lord Herbert of Lea; it was a measure of first-rate importance, and was called for by the state of health of the Army in peace, both at home and in India, and by the medical experiences of war. In the Walcheren campaign and in the Peninsular and Crimean wars the troops were devastated by scurvy, dysentery, and fevers arising from pre-

¹ This paper deals with conditions of health, which, in a special degree, relate to the British Army; for those which are common to all Armies, at all times, and in all places, attention is invited to the Enno-Sander Prize Essay, entitled:—“The Relation of the Medical Department to the Health of Armies,” published in the April and May, 1905, numbers of *The Journal of the Association of Military Surgeons of the United States*.—W.H.C.

ventable causes, which were at that time considered to be chiefly dependent upon environment, but not altogether, for the late Dr. E. Parkes, who was the first Professor of Military Hygiene in the Army Medical School, laid great stress upon the person of the soldier and upon individual predisposition to disease, whether hereditary or acquired; but in the sense that this question is now understood, his teaching had but little influence on those medical officers who were already in the Service, for the reasons which will be presently given.

The other changes took place in 1882; they were the unification of the department, the substitution of station for regimental hospitals, and the removal of medical officers from regiments and corps units. The first two were real reforms, and were intended to secure medical efficiency in war, but the third was only rendered possible by a misconception of the effect which short service would have upon the health of the Army. It is conceded that it permits an important saving to be made during peace, but only by depleting the medical department of its proper complement of officers, and if the disastrous effects it has had upon the physical efficiency of the Army in war is considered, even this gain is problematical.

The object of this paper, therefore, is to call attention to the imperfect comprehension of the A.M.D. of the duties which the adoption of short service imposed upon it, both in peace and in war; to show that the neglect of personal hygiene, which has been so characteristic of the Army since 1882 up to the South African War, was the direct consequence, for it was in that year that the control of the health of individual soldiers—not actually under medical treatment—ceased to be the direct concern of the A.M.D., and the sanitation of corps units was officially removed from its immediate supervision; to contrast therewith the work which is now being done by the medical service; and finally to suggest what further measures are required to make the health control of the Army in every respect effective.

To this end enquiry must be made into the causation of disease in Armies and of epidemics in war; it is the more necessary to do so because hitherto this question has not been fully considered. The causes of disease in Armies and of epidemics in war are internal and external, namely, those which are produced by the Army itself and those to which it becomes exposed through service. The former relate to the individual, and include vulnerability to disease, whether hereditary or acquired, and the latter to those conditions which are grouped together under the head of environment. To combat the former, personal hygiene and medical supervision are essential, and that is the one thing which, since 1882, the Army has never had, for it must be remembered that the preservation of health and the prevention of disease are not identical with medical treatment. In regard to environment, the duty has always been a divided one; that is to say, the regimental medical officer brought to notice insanitary conditions, which the commanding officer had to correct, usually acting on the advice of the medical officer. It was not a perfect system, but it had advantages; and its faults, such as they were, were not inherent. Perhaps if the department itself had had a more thorough belief in the efficacy of sanitation the proposals of its more enterprising members would have met with a more cordial response. The fact that the A.M.D. was able to revolutionise its relations to the Army and to destroy this system without supplying an efficient substitute

may be taken as an indication of the slight value the Director-General and his advisers put upon personal hygiene. The departmental mule of 1882 differed in no degree from his prototype of 1860, for whose extinction the Army Medical School had been instituted.

Departments, like individuals, may learn their best lessons from the history of their failures, though the lesson is harder and takes a longer time to learn, for with diversity of opinion the truth is not easily discoverable, which will to a certain extent explain why it was that from 1882 to 1889 the relations of the A.M.D. to the health of the Army became more and more unsatisfactory until medical responsibility practically ceased for all work outside hospitals and bearer companies. It was no wonder, therefore, that departmental responsibility could not be enforced for sanitary failures during the South African War. It could not be otherwise, for medical officers were never given the opportunity to practise these duties during peace; it was impossible for the department in the turmoil of war to accommodate itself to a new situation. The importance of familiarity with the business of war—for it is a business—is thus graphically put by Colonel Henderson in the work from which I have already quoted:—

“It is unquestionably an advantage, however, in any business, that the men responsible for its administration should abide by the same rules, follow the same procedure, and be thoroughly acquainted with the methods which ensure smoothness and despatch; and nowhere more than in the conduct of a campaign is friction embarrassing, delay dangerous, and misunderstanding, even on some apparently insignificant point, fraught with the possibilities of the gravest mischief. It is only by the establishment of a sound system with which every staff officer is thoroughly familiar, and of which the details receive the most scrupulous attention that such rocks are to be avoided.”

The mistake made by the authorities who were responsible for medical organisation before the South African War was that they failed to organise the department for sanitary work in war, and to afford junior officers the opportunity of practising it in peace. Such a system did exist on paper, and though defective organisation made it difficult to afford this instruction, a capable Director-General could have done much to lessen this difficulty; though it was, perhaps, rather hard for him to impart what he did not know himself, still, he had many able officers who would have been willing to have undertaken this duty. It must be remembered that medical officers who joined the service after 1882 could not otherwise make themselves acquainted with the internal economy of regiments, which lies at the bottom of effective regimental sanitation. It was, indeed, an anomaly to place officers in a position which required a thorough mastery of details, a readiness to accept responsibility, and the intuition to act with promptness and with judgment without their having had any practical training; these officers could only turn to the theoretical teaching which they had received at Netley for guidance. It was a large order to attach them to regiments in war, and to hold them responsible for their sanitation.

The history of this sanitary failure will be found in the Report of the Royal Commission on the South African War, which

summarises its conclusions in attributing the unpreparedness of the medical department for war as being caused by the imperfect comprehension of the demands which modern warfare would make upon it, more especially in regard to sanitation. This imperfect comprehension was, in the first place, due to a want of knowledge, and in the next, to a want of thought; this statement will not, I think, be disputed, but there may be some difference of opinion as to with whom the fault lies. To this end a study of the Report will be helpful. The late Surgeon-General Jameson, who was the Director-General on the outbreak of the war, attributed it to a want of knowledge on the part of his officers and of the Army generally. He said: "If sanitation had been understood, not alone by our officers, but by the rank and file, and the military officers, commanding officers, I think it would have saved thousands of lives." What a lamentable confession this was for the head of a great department to make. It was the more so because, as will be presently shown, the cause was not the want of knowledge on the part of executive medical officers, but the want of knowledge and of thought on the part of the administrative medical staff which was responsible for the organisation and administration of the department on the outbreak of the war. If the evidence of Sir Charles Warren, which is taken from the same Report, be examined, a more correct appreciation will be obtained. He said:—

"From the purely medical point of view, the skill, zeal, and devotion to duty of our medical officers during the war is beyond all praise. From the sanitation point of view there is much to be desired. It never seems to be clear whether a camp is located according to strategic requirements or not, or to what extent the question of sanitation is to be considered. The result is, there were grave defects in the position of many camps. The duties of medical officers ought to be more clearly defined, and their responsibilities laid down."

After calling attention to certain specific instances of disregard of sanitary obligations, he proceeded to show that it was not the servant but the master, not the hand but the head, that deserved impeachment. He said:—

"I am convinced that typhoid fever does not belong of necessity to an Army in the field; its presence is usually a sign of neglect of some kind. Whenever real sanitary precautions are taken, typhoid fever is at once reduced to a minimum. If there had been efficient sanitary regulations in our Army, and if they had been attended to, I think that three-fourths or four-fifths of our losses from typhoid fever would have been avoided. I consider that our regulations have been retrograde in late years. It is impossible that a Provost-Marshal can look after such matters. His duty ought to be to look after others, and see that they do their duty, and not do the duty himself. The whole sanitary service requires recasting. It ought to be automatic, so that on starting a camp or bivouac anywhere, things should go straight."

By whose fault was it that there were no real sanitary precautions taken, and that there were no efficient sanitary regulations? Making

every allowance for the non-possumus attitude which the department has so often adopted, but which in this instance is hardly applicable, it was quite within the competence of the Director-General to have issued such orders to his officers as would have enabled them to act efficiently. He had the accumulated medical experience of former wars to guide him; what is more, the department had for many years, in service journals and elsewhere, been warned what the consequences would be in our next great war if medical officers were not practically instructed in sanitary duties. Truly, the position was a humiliating one, and all the more so because the department itself was much to blame in not making use of the powers, limited as they were, which it had. The fault really was, that sanitation for years had been neglected in relation to the soldier himself.

Had Sir Charles Warren belonged to the medical service and known the inner life of the department, he could not have more faithfully described its condition in 1899, though naturally he did not know that with the health control of the Army which then existed, it would have been impossible to have despatched a force of any magnitude from these shores without its taking with it the germs of enteric fever. This is a fact which the medical department persistently ignored, and which the military authorities were never asked to consider, for environment was looked upon as the great source of danger, and the person of the soldier was neglected. Yet the medical history of every great war in which the country has been engaged during the past hundred years gives the same warning. Again it is asked where lies the fault? It is ridiculous to foist it on to executive medical officers. It is a question of medical organisation, and the fault lies with those officers who were responsible for the organisation and administration of the medical service between the years 1882 and 1899. Mainly, indeed, does the fault lie with the Director-General and his advisers who held office between 1882 and 1889, for their action nominated the department and established a tradition, which their successors, even had they the knowledge, were not strong enough to overcome.

Imperfect comprehension! That is the curse which, like the sword of Damocles, hung over the department all those years, paralyzing its work. *De mortuis nil nisi bonum*, is a principle which obtains universal acceptance, and it will be so respected in the following observations. But I cannot help saying that those officers who allowed, if they did not recommend, the removal of medical officers from regiments without instituting an efficient sanitary service to take their place, were the real authors of the medical failure in the South African War and the loss of life and the suffering which it caused. It was the mistaken view which they took of the effect of short service on the health of the Army, and consequent liability to epidemic disease, and to a lesser extent of the requirements of modern warfare. The only excuse which can be made for these officers, whether they are now living or dead, is, that they had not the special knowledge which would have prevented them from adopting so mistaken a policy, for all the officers who were at the head of the department between the years 1860 and 1900 had no knowledge of sanitation as it was first taught in the Army Medical School, and afterwards generally in the Civil Schools and sanitary institutes of the country. It was the employment of these officers as sanitary experts in the field which

brought these appointments into disrepute; the facts are notorious, but it is the results which are important and which require consideration.

In the space at my disposal it will be only possible to give a few instances of the neglect of the internal causes of disease, which resulted from imperfect comprehension, and which has been so provocative of physical inefficiency. A short service army, raised by voluntary recruitment, is relatively not as healthy as an army which is recruited by conscription or by universal service from the whole manhood of the nation, and it is more liable to epidemic diseases in war. Notwithstanding, the department took no active steps to secure the health preparation of recruits before they began training, by regulating their diet and exercise, etc.; neither were the effects carefully watched, nor was advice given to modify the course to individual capacity.

The danger of personal infection, which is intensified when large bodies of men are gathered together in limited areas, was ignored, so that cases of tuberculosis were allowed to reside in barracks until they were invalided out of the service, and convalescents from enteric fever, while still capable of spreading the disease, were returned to barracks to live in the same rooms with their comrades; also there were no means for detecting the occurrence of contagious and infectious diseases before they became dangerous. It will be said that there were regulations which ought to have prevented this. Yes, there were regulations, but the organisation of the department was such that it deprived medical officers of the opportunity to make use of them.

Another instance will suffice; it is perhaps the most important of all because it applies to such a large moiety of the Army; it is the less excusable because all the facts should have been known to the officers who were primarily responsible for the health of the Army, and it had been officially brought to their notice. According to the Annual Medical Reports, the annual admissions for diseases of the digestive system in the Home Army, which consists mainly of young soldiers undergoing training, have been, for a number of years, from one-fifth to one-sixth of the total number, injuries being excluded. It is a fact which has long since been recognised by all competent observers that Armies which suffer to a great extent from diseases of the digestive system in peace time are specially liable in war to dysentery and enteric fever. Again, had these returns been compared, it would have been found that the causes of rejection of recruits on enlistment, and of the mortality and invaliding in the Home Army, have a common origin in defective nutrition. The medical department signally failed to consider these facts in relation to the physical efficiency of the Army, and to immunity from specific diseases; through lack of knowledge their import was not understood.

These are conditions which more or less impair the physical efficiency of all Armies, and which increase their susceptibility to epidemic diseases. Of no Army in Europe can this be said with greater truth than of the British Army through faulty organisation, that is the selection of the recruit. Optimists, who, in military affairs, are more numerous outside the Army than in it, will not admit this fault, but attribute it to racial predisposition, or to any other cause except the real one. It is difficult to say what constitutes immunity from enteric fever; it is admitted that a sound constitution,

good health, and a healthy environment, do protect an individual; but that race *per se* gives immunity is a mere conjecture. Such evidence as there is directly militates against this view. All competent observers are agreed that the immunity of adults in Eastern countries is purchased by the prevalence of the disease in infancy and in early childhood. The medical history of the British and American nations affords no proof that the Anglo-Saxon race is more susceptible to this disease than any other; what it does prove is, that owing to modern sanitary improvements in the environment of their populations, the sources of infection are diminished, consequently their Armies, consisting mainly of young soldiers, are especially susceptible to insanitary conditions on foreign service and in the field. The accounts which we have to hand of the health of the Russian and Japanese Armies in Manchuria lead to the opinion that the populations from which they are drawn are the survival of the fittest; but it proves more, not the least of which is the great saving to life which follows the adoption of a sound system of sanitation when intelligently carried out. The phenomenal immunity of the Japanese Army should teach the British nation the advantages which follow on the physical education of the young, and the preservation of the health of the Army in peace. Inoculation has been suggested as a means of protection, but, apart altogether from its utility for this purpose, it is questionable whether inoculation for a filth disease will ultimately tend to the good health of the individual and of the general community.

These are some of the health problems which await the A.M.D. for solution. Of their importance there can be no two opinions. We have seen how the British Army a few months after landing in South Africa was decimated by dysentery and enteric fever, and thereby rendered powerless for effective action. We know that in consequence, Lord Roberts, after his arrival at Bloemfontein, had to remain inactive, to the detriment of the Empire. Endurance and immunity from disease are the two physical qualities upon which the military efficiency of armies depends. Could the general officer commanding an army in the field be guaranteed these, what a power it would give him. To give the army that endurance, and to secure that immunity from disease is the task which now lies before the R.A.M.C.; that it is not an impossible one the experience of the Japanese medical service bears witness. It is because I believe that the work now being done by it will have this effect that I have laid bare the skeleton which lies in the closet.

It is the curse of war that an army carries with it the microbes of disease, and itself makes those insanitary conditions which foster their growth and dissemination; it is in this way that the internal and external causes of disease act and react on each other. In South Africa both dysentery and enteric fever were endemic, so that the Army was exposed to a double dose of original sin; but what is of immediate importance is that the Army, as it is now organised, could not take the field for more than two or three months without enteric fever becoming epidemic, even under the most favourable local and climatic conditions.

The lesson which this teaches is a simple one, and it is because it is so that it has been so persistently neglected by the A.M.D. Its failure hitherto to prevent epidemics in war is due to the too limited view it has taken of their origin; it has busied itself with the

external causes of disease and neglected the internal. It has attacked the outworks, but it has left the sources of the disease untouched; it is the Army itself and the person of the soldier to which it should have primarily devoted attention. But in all human affairs there is the tendency to over-estimate the value of some particular circumstance. We have recently witnessed an instance of this tendency in the discussion which took place in the Royal United Service Institution regarding the causation of enteric fever in war, for one particular cause was singled out to the exclusion of others, which are in no whit less important. It cannot be too strongly urged that it is the rapid interplay of all the causes of disease, internal and external, which is so fatal to health; to neglect either is equally perilous.

This spirit of exaggeration or tendency to magnify one set of causes at the expense of others is seen in some of the schemes of army sanitation which have been placed prominently before the public, but it is not in army medical affairs only that its evil effects are found. Colonel Henderson thus refers to its influence on modern tactics, and we know how, with a credulous public, it has dominated army reform. He said:—

“Military criticism takes a long time to recover its equilibrium.

The practical effects of a new explosive, an improved firearm, or a novel formation, no matter what the circumstances, are sufficient to drive it to extremes.”

Hence the endeavour is now made to show that the health control of the Army must begin with the individual, and from him extend to those external conditions which he himself produces, or to which he is by service exposed. If this view obtains acceptance, it follows that to make the health control of an army effective, three conditions are essential, namely, self-control on the part of the soldier, co-operation on the part of his officer, and medical supervision. The discovery of the internal causes of disease is unquestionably the duty of the A.M.D., and so is the initiation of preventive measures, whether they are designed for the preservation of individual health, or the prevention of epidemic disease, so that whatever is the agency which may be employed to carry them out, the A.M.D. must be the predominant partner.

Self-control is not inborn in the soldier; it has to be developed by education and by example. Hence from the A.M.D. he should receive instruction in all matters relating to health, in which his officers should co-operate; but co-operation to be useful must be intelligent. Therefore, both officers and men will require instruction in military and personal hygiene, which will necessitate the closer association of the medical service with the Army. For these reasons I have, during the past twenty years, consistently advocated the appointment of medical officers to regiments in peace as well as in war, and that each regiment or corps should be the unit of sanitation. It is on these lines, or as nearly as possible, that the Army Sanitary Service should be organised, because its usefulness depends upon its being an integral part of the A.M.D., not a separate corps, which has recently been suggested. A separate corps would only add to the difficulties of the medical service by creating friction, and by still further estranging it from the Army; but as it is the continuous health supervision of the regiment which is required, the creation of a separate corps does

not seem the readiest way of securing it. If the military and medical authorities would only consider the question in relation to the physical efficiency of the Army in war, there can be little doubt of what their action would be. It has been thought out by the War Departments of foreign Armies, and they have been unable to devise a better unit of sanitation than the regiment; they employ the flower of their manhood in their Armies, yet they consider this health protection necessary, while the British Army, which is recruited from the least physically fit of the nation, and which is exposed in foreign service to unhealthy climates, and to endemic diseases, is denied it!

At this stage it will be convenient to enquire what are the measures which have been taken since the South African War to improve medical organisation in relation to general sanitation and to health control, and to see to what extent they conform to the foregoing principles. There are four principal measures: the first is the appointment of the Director-General as President of the Army Sanitary Committee, thus identifying the medical service in a more direct and active form with army sanitation, and according to the Director-General, powers commensurate with his responsibilities. This measure is all important, because once a question is referred to the committee, and its decision is given, there can be no difficulty afterwards in fixing the responsibility. Heretofore this was impossible.

The second is the appointment of expert sanitary officers as sanitary advisers to the P.M.O. of commands or districts. It was one of the pleasant fictions of medical organisation before the war that the P.M.O. of a command was its sanitary authority under the orders of the G.O. commanding. Theoretically that was so, but there was something more wanted than an ill-defined official position to make that authority of value. However, it is with the actualities of the present that we are now concerned. The duties of officers holding sanitary appointments include their making themselves acquainted with all matters relating to the sanitary conditions of barracks, camps, etc., in the respective commands or districts, and of all influences affecting, or likely to affect, injuriously the health of the troops. For this purpose they will make systematic inspections of stations, barracks, and camps, etc., also of the troops. They will enquire into the cause, origin, and distribution of diseases in their districts, and how far dependent on preventable causes; in the case of infectious disease, they will advise as to preventive measures. They will advise locally on all schemes relating to buildings, water supply, drainage, sewage disposal, etc.; they will make such chemical and bacteriological examinations as may be necessary, also periodical examinations of the drinking water supplies of the stations, and they will test the food and drink supplied to the troops. They will advise on all sanitary questions referred to them by the P.M.O. of districts, such as questions relating to ventilation, lighting, warming, food, clothing, physical training of soldiers, etc. They will give courses of sanitary instruction, and encourage in every way the diffusion of knowledge of practical sanitary procedure among officers and men in relation to the training of the troops, methods of water sterilisation, sanitary cleanliness of barracks and camps, disposal of refuse, care of latrines, etc.

The third measure, which was instituted early in 1905, is the appointment of medical inspectors of recruits to each principal command at Home, and one to the London District. Each medical inspector is responsible that the recruiting medical officers in the

command perform their duties intelligently and with judgment, and that the physical standards for the Regulars, Militia, Yeomanry, and, so far as possible, for the Volunteers, are maintained. When necessary, he personally instructs the recruiting medical officers, and by personal observation he satisfies himself that they understand the requirements of the service. He advises what physical training the recruit is capable of undergoing, and he reports to the P.M.O. of the command those recruits who are not likely to make efficient soldiers. In brief, this health supervision will enable him to say whether the system of drill and training is producing the healthy physical development of recruits, or whether in certain cases it is too severe and that under the strain they are likely to break down. This endeavour to prevent damage to health during training is for the first time a reality, not a mere paper regulation, which it was since the introduction of short service, though the consequences were officially reported to the Director-General in 1884.

The creation of the Royal Army Medical College is the fourth, and it is the complement of the other measures, for it will bring the R.A.M.C. abreast of the current medical and sanitary knowledge of the day. As the subjects which are taught are specialised, it will enable medical officers to attain an excellence which would be otherwise impossible, for they can choose those subjects for which they have a special aptitude, instead of being forced to squander their energies over too wide a field.

All these measures, however, would be of little avail without the intelligent co-operation of both officers and men, therefore, the recent news in the public press, that a school of military hygiene for officers, non-commissioned officers and men is shortly to be opened by the medical department at Aldershot, and that cooking classes for non-commissioned officers and men are to be formed at various stations, is gladly welcomed. It is a blot on our system of national education that personal hygiene and domestic economy have been so long neglected, but now that public attention has been aroused, and so much interest is being taken in the physical well-being of the people, it may be hoped that Government action will soon be taken.

These measures do not exhaust the good work which is now being done by the department. Both by experiment and by practice it is endeavouring to solve many of the problems with which it will be confronted in war. The question of a pure water supply in the field is all important, but it is manifest that the same arrangements are not possible for a force in constant movement, and for troops occupying fixed sites, and standing camps on the lines of communication; that troops in the fighting line can be supplied with a sufficient quantity of drinking water which has been sterilised by boiling is an absolute impossibility, whereas for troops in fixed camps, etc., there is no such difficulty. The experiments which the A.M.D. is now conducting will, it is hoped, solve the question not by discarding any one particular method, but by choosing that which is best suited to local circumstances.

Other experiments are being conducted which relate to the destruction of surface refuse; the results will be watched with interest, for if the sub-soil pollution of camps can be prevented by scavenging, and by the destruction of all organic refuse, armies in war will be saved from one of the most potent agencies in the dissemination of enteric fever, and to a lesser extent of dysentery. But at the same

time means must be found to render innocuous the foul water from kitchens and from all other sources. Experiments in England cannot be satisfactorily made for the collection and disposal of sewage under the conditions to which armies in the field are exposed, but the sewage problem of Indian cantonments is, in many respects, similar, so that it is hoped the attention which the Indian authorities are giving to the question will yield results which can be used for this purpose.

If the work of the medical service at the present time be compared with what it was before the war, how beneficent appears the change. But that is not all; it is the different spirit which animates the department which deserves recognition. On the part of junior officers it is one of scientific enquiry, and of strenuous endeavour to secure the health efficiency of the Army and to prevent disease, and on the part of senior officers it is the welcome they accord to the suggestions of their juniors, and thereby to supplement their own experience, which contrast so favourably with the spirit which dominated the department in the past, when, to point out a departmental error, or to offer a suggestion to promote the well-being of the soldier, or to effect a timely saving, was treated as a departmental offence. This is no idle assertion, it is a fact well known in the department.

This change in the attitude of the department to its officers is, in the first place, due to a keener sense of right and wrong, and of public duty on the part of the responsible authorities; but it is not with this side of the question we are now dealing; it is the effect which it will have on the preservation of the health of the soldier, and the prevention of disease in war, to which attention is now directed, for it follows that the health control of the Army becomes its chief duty; not limited, as before the war, to the mere treatment of the sick, to which in war the care of the wounded was added. The experiences of the South African War have burned into the department the lesson that it must be more closely associated with the Army, if the physical efficiency of the Army is to be its first consideration, for in no other way can health control be made really operative.

There are only two ways by which this association can be made effective: one is by posting medical officers to regiments and making the regiment the unit of sanitation, as already suggested; and the other is by posting medical officers to stations and parcelling out the work between them. The former gives continuous health control, and it is the system which must be kept up in war. With the latter the control is partial, and it is only possible during peace. In discussing this question some of the most progressive officers in the department have acknowledged that, had the responsible officers in 1882 foreseen events as they afterwards occurred in South Africa and in India, the present organisation would have been modified so as to give the soldier greater health protection.

The ideal arrangement of course would be to appoint medical officers to all regimental units, but it is recognised that the recent changes in medical organisation, to which attention has been called, materially alters the situation. Besides the supervision of the health of the soldier, it was the educational effects it would have upon medical officers, which made me so importunate in my advocacy of this measure; but in regard to battalions on the Home Establishment, it is believed that another arrangement can be made with advantage

and without any sacrifice of principle. At the present time the majority of the troops serving at home consist of young soldiers, either under the age, or not physically fit to proceed abroad; also it must be borne in mind that it is from these young soldiers, under one year's service, there is the largest admission rate into hospital during any period of their service.

Instead, therefore, of attaching medical officers to regiments serving at home, it is proposed that an officer of the R.A.M.C. should be appointed to each regimental dépôt, to which the recruits of their respective regiments should be sent and remain there for one year, to undergo physical training and drill. In this way the health of the young soldier will receive careful supervision, and the officers of the R.A.M.C. will gain an experience of military affairs which will stand them in good stead in the field. To all corps on foreign service medical officers should be appointed to supervise the health of the men, and to advise on all sanitary matters: they would also perform medical work in station hospitals. Sir Thomas Gallwey, P.M.O., H.M.'s Forces in India, has acted on this principle during the past four years, and he recently called attention to the good results which have followed; besides the health advantages to the troops, the familiarity with army sanitation which the R.A.M.C. would gain would be invaluable in war.

In conclusion, I must express the pleasure which it has given me to witness this great change in the attitude of the department to the health of the Army, and in the spirit which animates it. That the measures which are now being taken by the Director-General will lead to the greater physical efficiency of the Army, and to medical preparedness for war, there can be but little doubt. In this belief I bring this paper to a close, and wish the R.A.M.C. God-speed.

A NEW TACTICAL SYSTEM APPLIED TO THE RUSSO-JAPANESE WAR.

*By Rear-Admiral JACOB BÖRRESEN, Chief of the
Norwegian Naval Staff.*

IN the JOURNAL of the Royal United Service Institution, March issue for 1903, I wrote an article on a new tactical system based on the dividing of a squadron into semi-independent divisions in order to

"Enable the Commander-in-Chief to concentrate an overwhelming force on part of the enemy."

Will you allow me to recapitulate the theories put forth in that article and see how far they can be applied to the two famous sea battles in the last war—the 10th of August, 1904, and the 27th of May, 1905?

The theory is most easily derived from the example given on p. 332 (March, 1903):

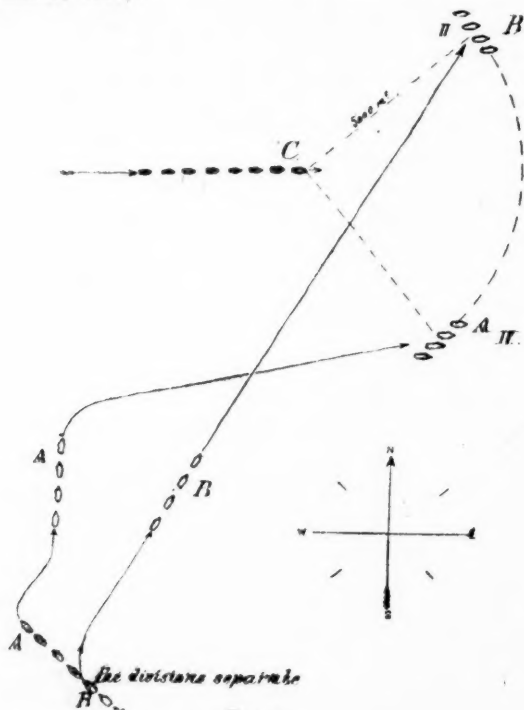


FIG. 1.

"The White Squadron (A B), coming from the south (see Fig. 1) divides, on sighting the enemy, into two divisions (A and B), A giving orders to B to take up position II. north-east of the enemy, with the head of the hostile squadron as a centre, radial distance to the enemy to be kept at 5,000 metres.

The Black Squadron (C) steers for the gap between the two divisions with the old-fashioned idea of cutting off one from the other.

B immediately takes up a north-easterly course and steams as fast as she can to get ahead of C, towards her position; whereas A quite leisurely steers northward and then eastward to take up position IV. In about 40 minutes the formation is made, and the two divisions (A and B) steam along on a course parallel to C and with the same speed, each division commander taking care well of distance and fleet angle (angle C A B).

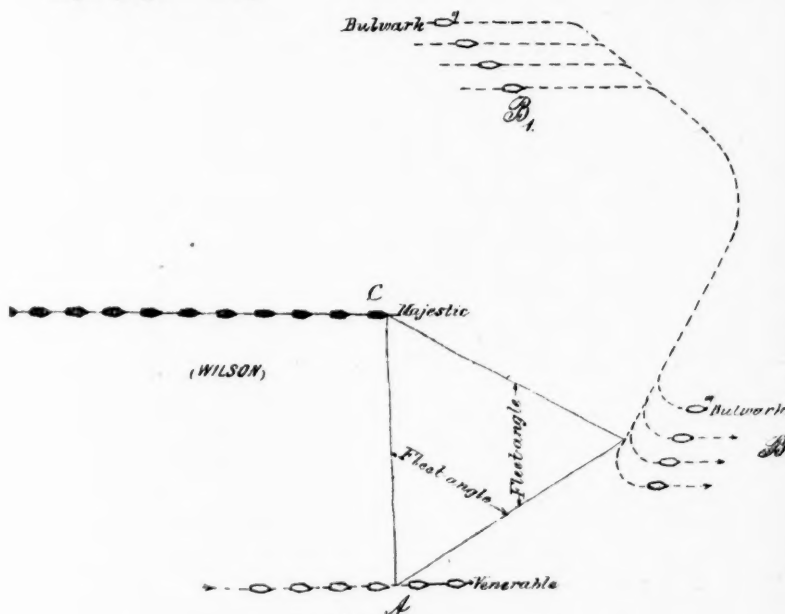


FIG. 2.

If A B have torpedo craft at their disposal or swift cruisers with torpedo armament, they ought to be disposed at a safe distance in the enemy's wake (somewhere about D) to prevent him from turning."

In the above-mentioned article I considered it most correct, from a theoretical point of view, for A and B to form in a line of bearing perpendicular to the radius from the respective divisions to the tactical centre (the head of the hostile column). Practically it is easier—and may be just as good—for both divisions, as long as they contain only a few vessels, to form in line ahead. It does not materially alter the system, and these formations are easier to keep and to lead.

These theories I tried to apply to the British tactics in 1903 near the Azores, in an article in "All the World's Fighting Ships" for 1904. This battle was fought in the old-fashioned way in two long lines ahead that passed along each other, pouring their broadsides in- gloriously into one another.

Admiral Domville, having the higher speed, got ahead of Admiral Wilson, but still continued in line ahead, which had the effect that his rear vessels were badly treated by Admiral Wilson.

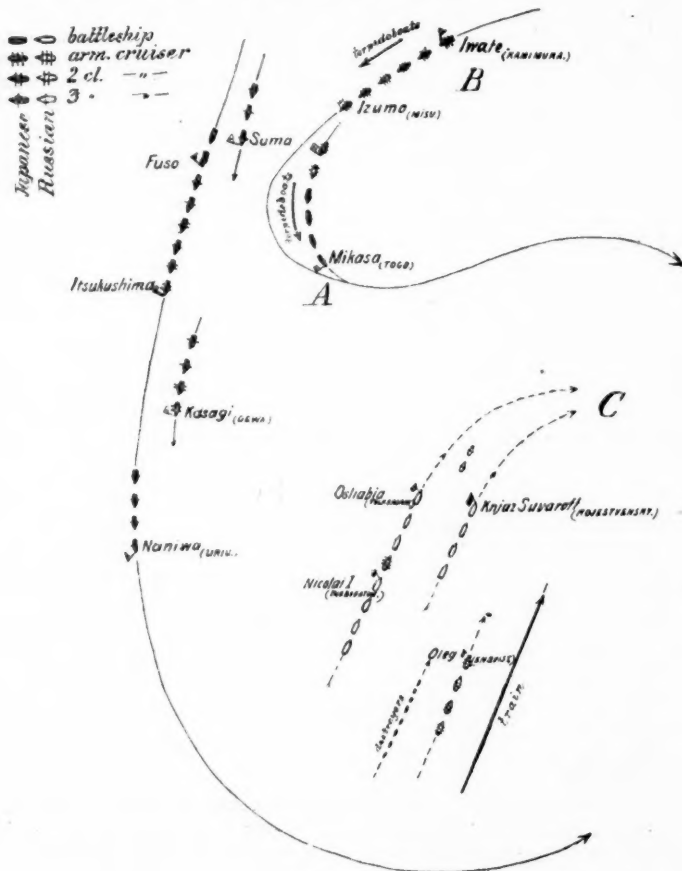


FIG. 3.

I therefore suggested that Admiral Domville might have divided his long line into two semi-independent divisions, as shown in Fig. 2, which would have given him a better opportunity of concentrating his fire on the head of the enemy.

The positions A and B (Figs. 1 and 2), on the circumference of a circle drawn round the head of the hostile line are ideal positions for

concentrating the fire on the leading admiral, for torpedo shots from the B Division, as well as for unexpected cordal movements (as from B, to B), with B's whole broadside turned on the enemy's head vessel.

I was very sorry to see afterwards that a reviewer in the *Standard* seemed to find my tactics rather strange.

In the Japanese tactics during the above-mentioned two days, the triangles A B C will be found repeatedly, A and B spelling Togo and Kamimura, and with deadly effect on the poor C.

In the opening of the battle of 27th May, Admiral Togo (see Fig. 3) took his own and Admiral Kamimura's squadrons in semi-independent divisions formed in line ahead, across the course of Rodjensky's fleet and ahead of it, trying to keep them in this position and manœuvring so as to hold the head of the Russian columns under a cross-fire—in a C position.

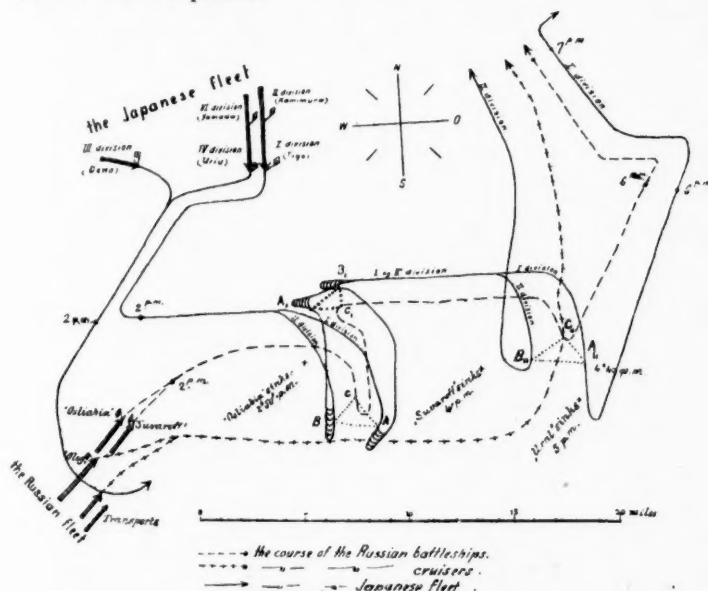


FIG. 4.

And the light cruisers of the Japanese fleet were directed southward to attack the enemy's rear (see Fig. 3; compare position D, Fig. 1).

At half-past two the leading vessel of the left Russian column, "Oslyabia," began to sink, while the two foremost vessels in their right column, "Suvarov" and "Alexander III.," broke out into flames. This was the effect of the concentrated fire on the tactical centre (C).

Fig. 4 is a diagram of the battle taken from "Mittheilungen aus dem Gebiete des Seewesens" for 1905, p. 741. "It was Togo's plan," says the Austrian Magazine, "by his own, Deva's, and Uriu's squadrons, to keep the Russian fleet in the centre of a circle, on the circumference of which his squadrons circled round it, keeping their respective positions and at a distance of about 3,500 metres from the enemy."

The theory of the "Tactical System," put forth in this magazine, was to operate "on the circumference of a circle (tactical circle), the centre of which is . . ."—the head, wing, or rear of the hostile fleet."

I have tried this repeatedly and found it to be a very easy matter indeed. It is, in fact, for the division commander only to increase or decrease the distance to his consort division by edging down on it or away from it, so as to keep approximately the same distance to his consort as to the enemy.¹

The rules laid down in the JOURNAL of Royal United Service Institution for 1903 are unnecessarily complicated. Practice is very much simpler than theory; but I venture to refer readers who wish to study "the divided squadron" tactics to that article.

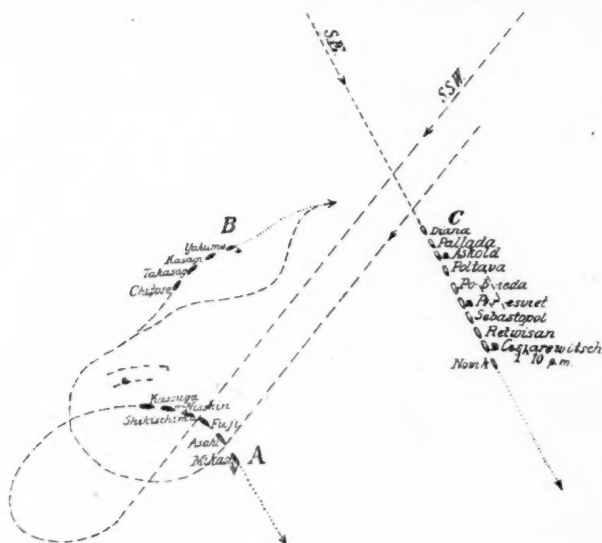


FIG. 5.

Togo, Kamimura, Deva, and Uriu, as will be seen from the diagram, parted company a little before two o'clock in the afternoon, the two first ones taking up an easterly, the two last-named a southerly course. Togo and Kamimura, commanding 1st and 2nd Divisions respectively, crossed the course ahead of the Russian fleet in line ahead, concentrating their starboard broadsides on the leading ships of the two Russian columns, with the above-named result.

The Russian fleet is gradually headed off, takes up an easterly and afterwards a southerly course; but the swifter Japanese divisions overtake it and again get ahead of it. At three o'clock the mutual positions of the opponents are as indicated by the triangle A B C, C being the head of the Russian fleet in the tactical centre, B (Kamimura)

¹ The fleet angle will then be about 60°.

mura's) and A (Togo's) Divisions on the tactical circle. The fleet angle is $\angle C A B = \angle C B A$.

The Japanese fleet have still the advantage of cross-fire.

The Russian fleet now turns northward, and the two Japanese divisions follow it, both veering together through an angle of 180° . Towards four o'clock they have again gained positions ahead of the Russians, as indicated by the triangle A, B, C.

Rodjestvensky now takes up an easterly course; Togo and Kamimura follow, and at 4.40 p.m. the respective positions are shown by triangle $A_2 B_2 C_2$. The victory is now decidedly on Togo's side, and the rest of the battle has the character of a *melee*.

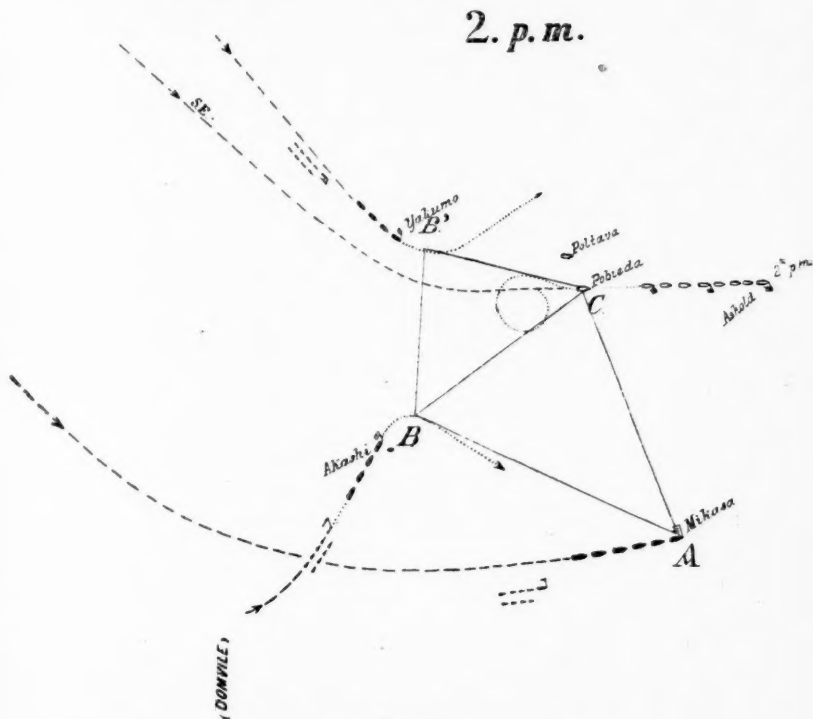


FIG. 6.

In the meanwhile Deva's and Uriu's squadrons are operating in very much the same manner against the Russian rear and with a similar result.

Such seem to have been Togo's tactics on 27th May.

In an excellent and lucid article in the same "Mitteilungen" (No. IX. for 1905) Captain Rudolph v. Labrès, of the Austrian Navy, has published an essay on the battle of 10th August.

A diagram (see Fig. 5) shows the respective positions at the opening of the battle; Togo, in line ahead, has crossed the course

In the *Edinburgh Review* for October, 1905, p. 320, I find the following remark:—

“Kamimura manœuvred (in the battle of 27th May) so as to bring his armoured cruisers temporarily into a line nearly at right angles to that formed by the Japanese battle-ship division. The Japanese, as it were, moved for a time along two sides of a square, the Russians being within the re-entering angle thus formed, and being consequently cannonaded from two quarters”—

a remark that applies to the theories put forth in the semi-independent divisions tactics (see Fig. 1, this article).

Let us now consider the case if Admiral Vithoff (C), about 2 p.m. on 10th August, had done something to shake off his enemies, for instance, turned northward to try to isolate and attack the Second Japanese Division B¹ (Fig. 7).

According to the rules laid down in the oft-quoted number for 1903 of the *JOURNAL* of the Royal United Service Institution, the two Japanese (B and B¹) divisions would have swung round the same way—to nearly parallel course—while the A Division would have steered for Vithoff's rear to get her broadside to bear on his last vessel.

I illustrated this case in 1903 by the following figure, the idea of which was based on a “hoop and beam” rule, viz.:—

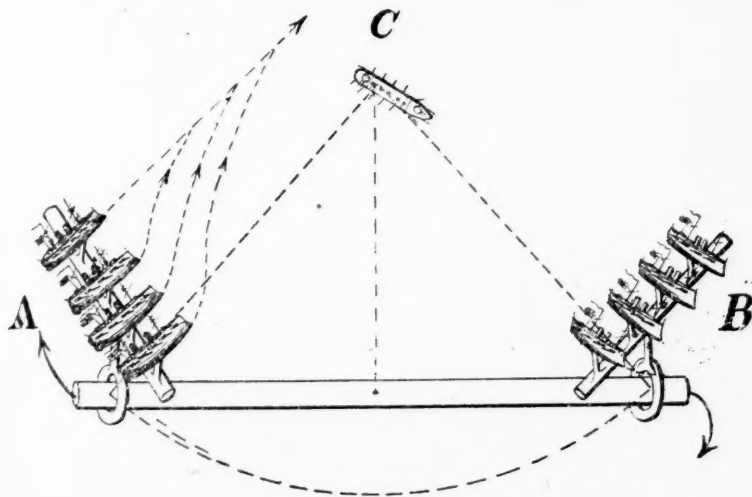


FIG. 8.

(No. for 16th March, 1903, p. 331.)

“In order better to understand the necessary co-operation between A and B in their manœuvres with C as a centre, we will consider them both pivoting on two hoops (Fig 8) sliding, one division on each end of an immense beam, which the two divisions drag along with

them, and which always must be swung, by A round B or by B round A, so that a line drawn perpendicular from the middle of the beam runs through C."

As already mentioned, the divisions in my original figure were represented as being formed in an oblique order, a line of bearing, perpendicular to the radius from C, which is, theoretically, more correct; but it seems that the Japanese have preferred to move about in line ahead, which simplifies matters a great deal without altering the theory.

Will you allow me in a later article to lay down the practical rules for keeping the A B positions on the tactical circle, leaving out the unnecessary and troublesome theories of 1903, and especially studying these tactics when both opponents divide their squadrons the same way?

SOME LESSONS OF THE RUSSO-JAPANESE WAR.

*By Général DE NÉGRIER. Translated by permission from the
"Revue des Deux Mondes."*

WE are now acquainted with the principal reports of the officers who, attached to the Russian and Japanese General Staffs, followed the operations, and in the information they give, as well as their comments, they show a wonderful amount of agreement. Tactical studies will, then, rest on a solid basis, and we shall not see reappearing the old objections to the lessons of the South African War, from which, according to some people, there was nothing to be learnt.

We have just been witness to a great war. Such an enormous number of effectives engaged, with the employment of weapons brought to the highest state of perfection, has never before been seen. The war has been carried on in both densely-populated regions and regions almost deserts, on the plains and among mountains, under the heat of a torrid summer and the snows of two rigorous winters. The siege of a fortress, on which the whole art of the engineer had been expended, battles which have sometimes lasted several days—nay, even some weeks—permit us to realise what the fighting of the future will be. The material points are now settled, and as time presses, since the most pacific nations may be drawn into war with very short notice, it is useful to set forth from now what it is advisable we should apply without delay. We must not run the risk of appearing on the field of battle with out-of-date methods of fighting.

We may at once record that the tactical lessons of the South African War have not only been confirmed, but still more emphasised, principally as regards the great extension of the fighting front. The fronts rendered very strong by the power of the arms and the employment of field works, have been difficult to force, even by intrepid troops, perfectly ready to give their lives without counting the cost. The efficacy of enveloping movements is definitely established, every time that the enemy has been held to his positions by vigorous attacks, stubbornly repeated. Night actions, formerly almost exclusively employed during sieges, which, however, were frequent in the Transvaal, have now become of common practice in field warfare. On the other hand, chance encounters have been more rare. Circumstances, which are rather out of place for discussion in a tactical study, have constantly induced the Russian Army to cling to certain positions—a grave fault, which the energy of counter-attacks failed to repair.

In order to judge the whole of the tactical methods employed, it is necessary to consider separately the action of the different arms. The new conditions of their employment will be deduced from them.

What hopes were not founded on the Russian cavalry by the friends of that country? Why have they been disappointed? Was the cavalry not properly mounted? Its superiority was, nevertheless,

indisputable. Superior in numbers, in the quality of the horses, technical instruction, the traditions of its old regiments, it could act with complete freedom. The Cossacks, everywhere quoted as the type of Light Cavalry, were to envelope the enemy in a net of supple meshes, leaving no movement of his unperceived. According to the doctrines prevalent among European cavalries (England excepted), the Russian cavalry, masters of the country, independent in its movements, armed with carbines, provided with horse artillery, had every facility for keeping continually in touch with the enemy, retarding the march of his columns, harassing his convoys, cutting his lines of communications, and playing an important rôle in battle. Its impotence has been a subject of astonishment. It was inevitable, for two reasons: Very mediocre instruction in musketry, and artillery powerless against villages or field entrenchments. The Russian cavalry is, nevertheless, much in advance of those of the Continental Powers. It has for a long time past understood that, being essentially the arm of the *offensive*, fire-attack becomes its normal mode of fighting, since opportunities for mounted attack do not often present themselves. Thus all the Russian horsemen are, as a matter of fact, dragoons. But, with this order of ideas, this cavalry has not gone on to the logical consequences. Its organisation should have allowed of its accomplishing everything that one has a right to expect from infantry. What decisive services might it not have rendered if it had been inspired like Sheridan's cavalry at Cedar Creek in 1864! Let us look at it at work.

In the *Revue des Deux Mondes*, of the 1st March, 1904, we find the following remarks:—"If, as is to be expected, the cavalry has to reckon with an enemy which, whether on the march or in camp, covers himself with a screen difficult to pierce, then it can only indicate the apparent outlines formed by this screen at a particular hour of the day, without being able to determine its composition or force. Unless the other arms are brought into action, one cannot demand more of it." And further on:—"The screens are formed of fighting groups, generally with a weak effective, but comprising the three arms in variable proportion, according to circumstances and the nature of the country. These groups hold all the network of roads in the direction of the enemy, and cover the flanks; they thus create, at a considerable distance round the army, a very extended zone of security, inside of which the Commander can move his troops, change the direction of their march; in a word, manœuvre them without the enemy being able to take note of what is going on. The groups on the wings, which the Commander can *échelon* at will, can thus as easily facilitate the envelopment of the enemy as oppose his attempts."

What did the Japanese do?

A French report dated from Liao-Yang, 9th July, 1904, says:—"The mixed detachments of varying strength form round the army a screen almost impenetrable to cavalry. They are composed of 20 to 40 horsemen, and a half-company, with one or two companies following up. They are sometimes accompanied by artillery. In the mountainous region of the Yalu, the Japanese in this way occupied all the passes and roads. In the south, at the beginning of the months of June, they thus occupied thirty-six villages, from Pitzévo to Polandiane, forming a screen which permitted them to hide their movements from the Russian cavalry, and prevented their reconnaissances from obtaining information useful for their own forces. It is thus

that the concentration of the Japanese forces before Vafangou, on the 14th June, was not known, and that the turning movement in force, carried out at a considerable distance on the 15th against the Russian right, could not be prevented. It was also behind this screen that, a few days later, the Japanese army slipped away to the south of Gäitchon. The detachments of cavalry which succeeded in passing through the meshes of the net found the route barred on their return, and on more than one occasion themselves surrounded by infantry and in a critical situation, without having completely succeeded in their mission. On the other hand, some reconnaissances carried out by only four or five horsemen managed to escape the vigilance of the Japanese, and to furnish very useful information to the columns and camps. The result of this system has been that the Russian cavalry, in spite of its great superiority in numbers, had very rarely an opportunity of using either sabre or lance; but from the beginning of the war, scarcely a day passed without their having had to fight dismounted. All the squadrons have had to do this several times already."

Often this fighting on foot took an offensive form; but, failing a sufficiently powerful artillery, the screens could not be pierced, and therefore the reports were insufficient. On the other hand, with some rare exceptions, the Japanese cavalry constantly took shelter behind its infantry; so the Russian reconnaissances, received with fire, were obliged either to keep at a distance and see nothing, or, dismounting, to attempt to gain some information by engaging in action. With regard to keeping in touch with the enemy and ensuring security, the Russian cavalry showed itself equal to the occasion. It was a patrol of Cossacks which, in Corea on the 28th February, 1904, close to Phen-Yang, fired the first shots of the campaign. On the 25th March, near Chengjou, seven weeks after the commencement of the war, the first serious engagement between a mixed detachment of Japanese cavalry and infantry and 700 men of the 1st Transbaikalian Cossack Regiment. This was solely a musketry fight. On the 12th May a detachment of Japanese cavalry dismounted and attacked Silouanchan; there was no artillery with them, and they were repulsed. In their turn the Russians attempted the offensive on the 20th May in the direction of Changton; two regiments of cavalry dismounted and attacked the village of Changchou, on the right bank of the Liao, some 13 miles south of Fakoumen. The fighting lasted two hours; the Russians had only machine guns with them, and they were repulsed with a loss of 300 men. But let us leave the skirmishes and examine the important operations.

Let us commence by admitting that the Russian cavalry has shown itself brave and active. If, in regard to fighting and obtaining valuable information, it was not able, for want of a proper organisation, to render the service expected of it; on the other hand, it succeeded in guarding the army against surprises and keeping constantly in touch with the enemy. The operations of the cavalry of General Samzonoff, after the battle of Vafangou (Téltzé, according to the Japanese), are, from this point of view, particularly interesting.

Let us briefly recall the situation. The Great Mandarin Road, leading from Port Arthur, some 262 miles to the north, ran side by side with the Manchurian Railway—a unique line of communication for the Russian army. It passes by Nanchan-Chinchou, 37 miles from Port Arthur; Télistou, 87 miles; Kaiping, 137 miles; Tachichiao,

150 miles; Haicheng, 168 miles; Lyao-Yang, 218 miles; Chaopou, 242 miles; Mukden, 260 miles. The battle of Nanchan-Chinchou, won on the 25th May, 1904, by General Nogi, cut off Port Arthur from the Manchurian army. General Kuropatkin, very rightly, wished to abandon Port Arthur to its fate, and concentrate his forces about Tachichao, the junction of the Pekin-Mukden and Mukden-Port Arthur Railway, in order to manœuvre between the army of General Oku, which was moving north along the railway, and Kuroki's army coming from Corea and marching on Lyao-Yang. For reasons still unrevealed this project was given up, and it was decided that Port Arthur should be relieved. General Kuropatkin was thus compelled to move a large part of his forces on Vafangou. They were attacked there on the 14th and 15th June by General Oku and beaten. After the battle the 1st Siberian Corps was hastily retired, first by two night marches on Vanzeline, then on S  noutchen, and from there in two columns on Kaiping.

General Samzonoff, an active, vigorous man of forty-six, succeeded in getting in touch again with the enemy on the morning of the 16th June. His cavalry followed a strong rear-guard of a brigade, and covered itself by advance posts placed at $3\frac{1}{2}$ miles from his main body. On the 19th June his force was composed of six squadrons of dragoons, six sotnias of Siberian Cossacks, three sotnias of Frontier Guards, a commando (the term used in the Report) of Mounted Scouts, the 13th Regiment of Siberian Chasseurs    pied, and the 3rd Battery of the Trans-Baikal Cossacks. The squadrons were from 80 to 90 men strong, the sotnias of Cossacks from 90 to 100. The duty was severe, because this cavalry, in touch night and day with the enemy, could get no repose. The men asked for the support of an infantry force in order that they might get some sleep under shelter from surprise; they were told they had to maintain their position between the enemy and the rear-guards of the columns. On the 20th June, seven officers' reconnaissances were sent out. They reported a turning movement by three battalions and 14 guns. General Samzonoff sent off all his train, only retaining some pack animals. The advanced posts were firing all night, the men remaining in the saddle until 2.30 a.m., and retiring slowly on the 21st. The Japanese advanced in three columns, the strength of which could not be ascertained. Their cavalry remained under the protection of the infantry, and they continued to cover themselves while on the march as in camp by a network of groups of infantry and cavalry, which the Russian patrols could not succeed in piercing. Some officers and Chinese spies alone succeeded in obtaining any information. On the 23rd there was another retreat without fighting, but a strong patrol, consisting of a half squadron, taking advantage of some broken ground, was enabled to surprise the horses of a dismounted Japanese squadron and kill a large number of them by a volley. On the 21st there was a fresh retreat. On the 25th a dozen patrols were sent to the front. On the 26th June, Prince Jaim   de Bourbon brought an order from the 1st Siberian Corps directing an immediate reconnaissance to be made towards S  noutchen. Three sotnias were despatched, which left at 3 a.m. Three Japanese squadrons appeared in front of the Russians, then made a half circle in order to draw them towards S  noutchen, where, according to Chinese spies—the only reports it was possible to get—there were 12 Japanese squadrons and 3,000 infantry.

On the 21st, General Samzonoff received orders to seize S  nouch  n. He left at 3 a.m., and attacked on foot, but his artillery was powerless against the village defended by the infantry, and, the attack failing, he fell back at 9 a.m. On the 28th he withdrew on Baovidjai. The weather was very bad, but in spite of extreme fatigue, the *moral* of the troops was not affected. The 29th and 30th were quiet, because the Japanese did not advance further, but entrenched themselves. At last infantry were brought up and the cavalry were able to get some rest. The Japanese did not take the offensive until the 6th July.

Thus General Samzonoff's cavalry had taken twenty-three days to fall back 37 miles, sometimes retreating, sometimes advancing, always hanging on to the enemy, watching his movements, but unable to obtain sufficient information on which to form a plan of operations. It was sometimes found 18 miles from the column, and it was often hampered by the fact that its line of advance posts, and sometimes even its halting places, were fixed by the General Commanding the 1st Siberian Corps. When, during the interval of time which elapsed between the issuing of the orders and their reception, the conditions had changed, the situation became very difficult. Even when the infantry was in his proximity, General Samzonoff could not rest his horses, because his orders were to keep his cavalry always in advance of the infantry. Units remained sometimes seventy-two hours without unsaddling. In all these operations the cavalry could only act as mounted infantry; but with insufficient musketry training, and having only very light artillery, it could never pierce the Japanese screens. It is necessary here to point out that the Russians had put in practice Napoleon's precepts, quoted in the *Revue des Deux Mondes* of the 1st March, 1904, relative to infantry scouts. Each regiment formed a group of 140 men, mounted on small horses, so that it was not necessary to detach cavalry to do the divisional duty. We shall return further on to this important question. The group of mounted scouts of the 13th Regiment of Siberian Chasseurs, which were cut off from Port Arthur when the Japanese disembarked to the south of Pit-se-vo, had joined General Samzonoff, and rendered signal service. Composed of picked officers and men, rapidly war-hardened by continual contact with the enemy, it operated with skill. Its Commander deployed it over a wide front, keeping no reserve. Each of its three sections, which originally were dependent on the three battalions of their regiment, fought with wide intervals between each other. Their chain of skirmishers, provided with 300 cartridges per man, composed of good shots, trained by experience, knew how to utilise the ground and man  uvre by signals. This troop, termed a commando, after the Boers, fought successfully on the 14th and 15th June at Vafangou, against superior forces, without incurring serious loss, and, although mounted on horses of small size and with small powers of endurance, they showed themselves superior to many of the squadrons of cavalry.

"The difficult problem was, then, to obtain information. The patrols came into collision everywhere with infantry or dismounted cavalry. To throw oneself with a column more or less strong against the line in order to force it at a point which might seem to offer a favourable chance, was an enterprise so dangerous that it could not be carried out. It would almost infallibly have led to the loss of the column, which would have been soon entangled in the meshes of the net. Some

fortunate attempts soon led General Samzonoff to ascertain that one or two persons penetrating by themselves up to the centre of the enemy's lines brought back to him the most accurate reports. The composition of his troops allowed him easily to find resolute and experienced volunteers, who, scouting in this way, generally returned bringing back useful intelligence. With regard to keeping in touch with the enemy's screen, it was maintained by strong scouting patrols of 12 or 15 mounted men, who left in the evening and crossed the line of vedettes during the night. This service was supplemented by Chinese spies recruited by interpreters in the villages." But a system of espionage thus organised at the last moment is not of very much value.

The different modes of activity for cavalry come under one of the following categories:—

1. Obtaining information.
2. Attacking lines of communication.
3. Their rôle in battle.

We have seen what the Russian cavalry were able to accomplish in the way of obtaining information; let us now examine what they effected against the enemy's lines of communication. During the War of Secession, these sort of operations were called "Raids."

After the battle of the Shaho, terminating on the 21st October in a defeat, the Russians fell back on Mukden. The Japanese army, keeping in touch, had thus to prolong its line of communications. Its supplies came for the most part from the port of Yinkow (Newchwang), some 100 miles to the south-west of Shaho-pu. In the month of January, all the water-ways being frozen, General Kuropatkin determined to make a raid on these communications by launching a large force of cavalry on the rear of the Japanese. A force of about five thousand mounted men, accompanied by horse artillery and mounted detachments of engineers, was placed under the orders of General Mistschenko. On the 8th January he crossed the Hunho, passed round the left of the Japanese screen, and marched south across the vast devastated plain of the Liaho. His force was in three columns, commanded respectively by Generals Samzonoff, Abramhoff, and Tyeleschoff. The front covered about 5 miles; men and horses were in excellent condition. The weather was bright, and particularly mild for the time of year. The first night was passed in the environs of Silanataï, half-way between the Hunho and the Shaho. On the second night the village near the junction of these two rivers was reached. About 75 miles had now been covered. On the night of the 9th the scouts seized a small convoy; but the Japanese had taken the precaution to place combustibles in some of the houses, which would produce when fired a dense volume of smoke, in order to give the alarm. And as night came on fires were observed blazing up one after the other in an easterly direction. The presence of the Russians was thus signalled. On the morning of the 10th the force fell in with some five hundred Chunchuses and put them to flight with a loss of some hundred killed. In advancing towards the south the columns of the right and centre found themselves before the walled village of Shoutzou, close to the junction of the Liaho and Taitzou, a small stream running from the east to the west; the village was held by some two hundred Japanese, who offered a stout resistance, but on the attack being renewed after

dark by the Cossacks, under General Verkhoyondinski, it was captured. The brigade of Cossacks of the Caucasus was then sent east to cut the railway to the north of Haycheng, in order to prevent the despatch of troops coming from the south. On the 11th the force crossed the Taïtsou, and towards mid-day attacked Old Newchwang. Sixty Japanese shut themselves up in a house and refused to surrender, so they were left. Several convoys were seized and burnt at once. The Japanese or their Chinese agents set on fire all the villages along the route followed by the Russian columns, so that their track was marked by day by the dense columns of smoke and at night by the flames of the burning hamlets. The night of the 12th was passed in some villages 18 miles to the east of Yinkow. During this time the Cossacks of the Caucasus destroyed nearly six hundred yards of the railway to the north of Haycheng. The dragoons also partially blew up the Tachikeio bridge and cut the telegraph. On the 12th the cavalry moved against the Yinkow railway station, burnt the adjoining store-houses, and at four o'clock attacked the station, which was defended by a thousand Japanese, who had just arrived by train on the scene. Six Russian batteries came into action, while the Japanese had no guns, but were entrenched. The buildings near the station took fire; nevertheless the attack, continued up to nightfall, failed—because the mounted men had no bayonets, said the Report. General Mistchenko retired in good order, carrying off his wounded; but a considerable Japanese force had in the meantime been despatched from Haycheng to cut off the retreat of the raiders, but it failed in its object, and by the 15th the Russians were in safety again behind the advance posts of the army.

Here, then, was a raid organised and carried out with both skill and energy, but without any appreciable result. Under their present conditions no other European cavalry could have done better. We cannot impute its little success to a want of vigour, but solely to the fact that the cavalry was without the indispensable weapon, viz., the howitzer or light mortar, which alone can make a village untenable and rapidly destroy obstacles which may be met with. Artillery of small calibre, however rapid its fire may be, and powerful as it is against exposed troops, is incapable of reducing field works. The thirty-six guns placed in battery before the Yinkow station had no guns in front of them; there was nothing to interfere with their mode of action, and yet they were ineffective, just as General Samzonoff's artillery was in the attack on the village of Sënoutchen. The question admits of no dispute. Cavalry ought to be accompanied by a certain number of howitzers or light mortars, firing a shell of large capacity with a high explosive charge. The progress made in artillery permits of this. Mounted men should also be armed with bayonets. Napoleon ordered it in his Decree of the 12th February, 1812:—"The carbine will be fitted with a bayonet, sheath for which will be attached to the sword-belt, as is done with the dragoons." The cavalry then could carry out successful raids, seize important points on the railways. It would then once more have wings, and would run no risk of seeing itself brought to a halt by some paltry village. The question of a gun of large calibre for cavalry is not a new one. Even as early as under the First Empire the generals of cavalry asked for one.

What was the action of the cavalry in a pitched battle? Mukden on this point has given us several lessons. This battle developed from

the 25th February to the 11th March, 1905, on a front varying from 100 miles (27th February) to 75 miles (8th March). The water-courses were still frozen, and the country everywhere practicable for all arms. Let us recall briefly the principal features of this gigantic encounter.

The Russians were formed in three armies and one general reserve. On the right (the West) General Kaulbars was in command of the 2nd Army, consisting of the 1st Siberian Corps, the 8th and 10th European Corps, and a corps of European sharpshooters. In the centre, General Bilderling was in command of the 3rd Army, consisting of the 5th and 6th Siberian and 17th European Corps. On the left (the East) General Linievitch commanded the 1st Army, consisting of the 1st European Corps and the 2nd, 3rd, and 4th Siberian. On the extreme left again was the independent corps of General Rennenkampf. At Mukden, as the general reserve, was the 16th European Corps. The whole force amounted to a total of 380 battalions, 170 squadrons, 175 batteries (8-gun), and 23,000 engineers, or a total of 380,000 men. This army was entrenched. All the resources of field fortification had been called into requisition. There were great redoubts with defilading communications, wide and deep, networks of barbed wire, *trous-de-loups*, electric and automatic mines, roads of communication between the front and the rear, batteries provided with epaulments, siege guns in position in front of the Shaho-pu station, ammunition depôts in the trenches, a broad-gauge railway running parallel to the front and connecting the country to the south of Mukden with Fushun, the centre of the left; in addition there was a telephonic network between the works and headquarters, while electric search-lights and observation stations sixty feet high, were *echeloned* the whole length of the lines; nothing was neglected. The Russian army had 60,000 men more than the Japanese. From the 25th February to the 4th March the battle raged; on all sides counter-attacks were renewed day and night; but on the last-named date the Russian battle front now took the form of the two sides of a square. On the night of the 8th-9th the line of communication to the north of Mukden was so threatened that retreat became imperative. On the 9th the extreme right was in its turn outflanked, and on the 10th a part of the troops under Kaulbars and Bilderling, taken between two fires through the Japanese taking advantage of an opening left between the two armies, suffered disaster. The losses amounted to 26,500 killed, 90,000 wounded, and 40,000 prisoners, or a total of 156,000 men. The Japanese confess to a loss on their side of 46,500 men. The Russian defeat was thus complete. We may confidently assert that one of the principal causes of the disaster lay in the faulty employment of the cavalry.

General Kuropatkin was unable to see anything, said the report; he had to manoeuvre in the dark. He was deceived by the secrecy and rapidity of the enemy's movements, as well as by erroneous deductions founded on the preceding operations. The mountainous regions of the east seemed to have attracted the principal Japanese forces, accustomed to act in broken and difficult country. From the battle of the Yalu up to that of the Shaho, the Russian General Staff declared that if the Japanese were free to choose, they would by preference utilise the hilly country. When the great turning movement against the Japanese left was made by Generals Kaulbars and Gripenberg at the end of January across the great plains of the Liao and Hunho,

although the victory of Haikantaï rested with the Japanese, it was admitted that they seemed to have displayed, perhaps, a certain hesitation, or inaptitude for fighting on the plain. Thus General Kuropatkin was led to believe that the principal attack would be in the country to the east and south-east of Mukden, and not by the plains of the Liao and Hunho. Some other incidents at that time also tended to confirm him in his error, and we have thus once more a proof that nothing is more dangerous in war than a preconceived idea of the movements of your enemy. Here are the facts. Up till then Kuropatkin had only to deal with three armies—those of Kuroki, Nodzu, and Oku. The fall of Port Arthur left General Nogi's army free. In addition, a fifth army, under General Kawamoura, had left Japan towards the end of January. The secret of the composition of this army, its points of disembarkation, and its line of march had been well kept. Nevertheless, the Japanese, intentionally without doubt, had allowed the Tokio journals to announce that Kawamoura was intended to operate in the region to the east of Mukden. In addition, in order better to deceive the Russian General Staff, it was announced that the 11th Division, under the command of General Sakaï, had left Port Arthur on the 22nd January to join Kawamoura's army in the east. Moreover, Kuropatkin thought that the turning movement of General Gripenberg against the Japanese left would bring him in touch with Nogi's army, if it was anywhere to the westward. The Russian advance guards were pushed 14 miles to the west of Liao-Yang, and the troops met all belonged to Oku's army. From that moment, Kuropatkin, convinced that Nogi's army was to the east, moved to that side the centre of gravity of his forces.

Let us now see what was the Japanese plan: To attack the front with Kuroki's army on the right, Nodzu in the centre, and Oku on the left; to threaten the Russian left on the east by an enveloping movement through Tita on Tieling, by means of Kawamoura's army, in order to draw the Russian reserves in this direction—which was just what happened; then, the effect produced, Nogi's army was suddenly to appear on the west, having been concealed up to that time behind Oku's, envelope the Russian right, and cut the railway to the north of Mukden. This plan was carried out in every detail.

How was it that the Russian cavalry failed so badly in obtaining any information? It was only on the 7th March, that is to say, at the moment when the battle was in effect lost, that Kuropatkin was able to realise the danger which menaced his right and his principal line of communication. At the commencement of the battle his cavalry was in three groups. In the plain, at Sinminting (28 miles west of Mukden), the 51st and 52nd Regiments of Dragoons. In the mountains in the east, in the direction of Tsiangchang and Saimatzé, the Siberian Division and two Trans-Baikal regiments. Far away, in the rear towards the north, the Division of the Don and a regiment of Cossacks of the Ussuri. These last forces left on the 28th February in pursuit of some guerilla bands who were trying to cut the railway to the north of Tieling. The rest of the available cavalry (a part of the division of Trans-Baikal Cossacks, four regiments of dragoons from the Maritime Province, the regiment of Cossacks of the Amur, and an Orenberg regiment) secured the connection between the corps d'armée and furnished the escorts. A total of from 17,000 to 18,000 horsemen, so distributed that no part was sufficiently strong to deal with any grave eventuality.

The Japanese had fortified their front in the region of the Shaho, over an extent of 37 miles, by means of two lines of closed redoubts and a third line of deep trenches. Thus satisfied as to the position of their centre, they manœuvred by their wings. On the 24th February Kawamoura attacked the defiles of Chinghocheng, took possession of them, and drove back the Russian advanced posts. On the 26th he planned a grand enveloping movement with two combined detachments. The first, under General Tomoura, comprised four regiments of cavalry, a battalion of infantry, twelve field guns, and twenty-four machine guns; the second, under General Aliyama, was similarly made up. These troops had no train, and General Pavloff reported them as marching towards the north-east with the speed of "jinrickshaws." General Kuropatkin, more and more convinced that the Japanese wished to envelope his left, despatched to this side the 1st Siberian Corps, which was on the right near Mukden. This corps made a forced march of 50 miles, but had scarcely come in touch with the enemy than it was recalled to the right. It arrived at Mukden on the 3rd March, having uselessly covered 125 miles, and so fatigued that from the 6th to the 9th it could scarcely be utilised. On the 10th the order was given to retreat.

On the 26th February the Japanese army took the offensive all along the line. Its frontal attacks, renewed again and again up to the 8th March, failed. Equally on their extreme left the Russians opposed an insurmountable resistance, and they even on the 28th February at Kaotouling captured a battery. But the Japanese had formed to the west a column of 6,500 mounted men, accompanied by artillery and a thousand infantry. This troop, forming an advanced *echelon* of the left of General Nogi's army, up to that time kept in concealment behind the network of the flank detachments of General Oku, was set in motion on the 27th February, and on the 1st March it drove two regiments of Russian dragoons out of Sinminting. The heads of the columns of Nogi's army followed, forming a series of *échelons*, the left in advance, so as to be able to fall on the Russian right when turning eastward. On the 3rd March Nogi's army deployed, preceded by a screen formed of mixed detachments, marched on Mukden, from which it was only $9\frac{1}{2}$ miles distant.

The Russian cavalry, incapable of piercing the screen, could send in no useful information, so much so that Kuropatkin believed that on this side it was only a demonstration of no importance. On the 6th March he sent again to St. Petersburg reassuring despatches, because along his whole front, from the south of Mukden to the east of Tita, over a space of 50 miles, the Japanese had been everywhere repulsed with considerable losses. But on the 6th, in the evening, danger became apparent. The army of General Kaulbars had to change front during the battle, thus giving a remarkable proof of its steadiness. From the 7th to the 8th March, the Japanese only gained some 3 miles; but on the evening of the 9th the battle was definitely lost. Why did not the Russian cavalry act *en masse* and by means of its fire, as Sheridan's did at Five Forks?

Everything could have been saved! It could have delayed the movement of Nogi and given Kaulbars time to form some *échelons*, fronting south, with the left refused. The Japanese attack, forced to extend instead of concentrating, would have exhausted itself, and a Russian victory become probable. But yet another point of view has to be considered. An army on the defensive is obliged to keep in

hand large reserves. It is, in fact, difficult to tell at the beginning of a battle to what point the principal efforts of the enemy will be directed. The great force of resistance of the fronts leads to placing the reserves towards the flanks. Yet it is necessary that they should be formed so that they can intervene in time. On account of the enormous extent of the fighting front, infantry, which only moves across country at the rate of $3\frac{1}{2}$ miles an hour, could not fill the rôle of general reserve of the army, and still less of reserve for a group of armies. This rôle henceforth belongs to the cavalry. Two or three masses of from 6,000 to 8,000 mounted men, good marksmen, provided with machine guns, field guns, and howitzers, will allow a Commander-in-Chief to guard against an attack in time, or to bring off a decisive issue. These dispositions, applied to Mukden, would have changed the situation. The 15,000 cavalry could have been thus distributed: 5,000 or 6,000 placed in reserve in rear of Kaulbars' right wing, to the north of Soufantai, between the Liaho-ho and the Hung-ho, with a brigade as a flank guard at Sinminting; 8,000 close to Mukden; 4,000 towards the Upper Hunho, to the east of Fushun; in these conditions the movement of the Japanese on Sinminting would have been necessarily delayed. Even admitting that Sinminting could have been captured on the 1st March, the 8,000 cavalry at Mukden, joined to the 5,000 in reserve on the right, would have been able, with their machine guns and a part of their artillery, to have contained the front of Nogi's army, whilst their main body would have out-flanked and attacked its flank. It is probable that on the 3rd March Nogi had not arrived within 13 miles of Mukden, and that the village of Likouan-pu, the pivot of the change of front made by Kaulbars' army, and attacked on the 4th March, should not have been given up on the 8th on account of the capture of Pa-Kiatsu, 9 miles further north. The change of front would not have had this character of extreme urgency which produced a regrettable mixing up of units, and it is quite probable that the Russians would have succeeded in preventing the junction of the armies of Nogi and Oku. On the 8th March, as a matter of fact, the Japanese had not yet succeeded in capturing the station of Machiopa, on the Hunho, 6 miles to the south of Mukden. The 4,000 cavalry on the left could at the same time have been recalled to Mukden, where they could have been placed in the general reserve from the 4th March. Admitting that events would have been as they were, Mukden would have only been a battle lost without disaster. We know that the retreat ordered on the 8th March was carried out in excellent order by Linievitch's army to the east, as also did the left of Bilderling's army; but a gap being left on the 9th between Bilderling's right and Kaulbars' left, a Japanese force of cavalry, with artillery, was launched towards the north through this opening, and opened fire on the rear of Kaulbars' troops, who were fighting facing to the west. This was the cause of the disaster. Nearly 40,000 prisoners were captured; 3,000 or 4,000 cavalry in reserve at Mukden, sent rapidly to close the opening or sweep away the Japanese detachment, which was numerically insignificant, would have saved the situation.

How did the Japanese, in spite of the numerical inferiority of their cavalry, utilise it? From the beginning of the campaign they have employed for reconnoitring officers accompanied by a small number of mounted men. We have seen that the duty of covering the army was carried out by means of small mixed detachments,

generally disposed checkerwise, and moving on a very wide front. Their cavalry was always supported at a short distance by infantry (behind which it took shelter at need). Cases of mounted fighting were very rare, while fighting dismounted went on continually. The Japanese did not commit the fault of asking from their cavalry information that no cavalry could now give, because the Regulations everywhere in force continued to impose on it the duty of enlightening the General-in-Chief as to the composition of the enemy's forces. Information of this kind was obtained by a system of espionage organised for several years past in Corea and Manchuria. The Japanese never forgot that this service could not be improvised at the moment war broke out. It was only the leisure hours of peace which permitted of giving this service the necessary development, so that information could arrive rapidly and surely. An anecdote will give the measure of the organisation. At the end of February, 1905, Kuropatkin's headquarters were at Sahetun, 6 miles to the south of Mukden, near the branching off of the large road constructed to connect Mukden with the army of the east of Fushun. The Commander-in-Chief had resolved to take the offensive on the 25th February. The preparation of the orders had been most carefully kept secret. On the 25th February it was discovered that these orders were known to the espionage service organised at Mukden by a Japanese officer of rank, who had resided there for a long time. Counter-orders were immediately given.

In battle the Japanese employed their cavalry in a logical manner; that is to say, as troops whose fire is the essential mode of action, and which can be rapidly brought to the required spot.

On the 15th June, at the battle of Téli-tzé (Vafangou), the Japanese right wing, vigorously attacked and outflanked by considerable forces, was compromised. Although twice reinforced, it was on the point of succumbing when a strong detachment of cavalry succeeded in turning the Russian left flank and attacking them in rear. The Japanese profited by the respite; thus their cavalry decided the fate of the day. At Mukden they formed a corps of cavalry under the command of General Akiyama; it comprised 40 squadrons, 12 machine guns, a battery of horse artillery, and 1,000 infantry. It debouched from the Hunho on the 26th February; on the 1st March it was at Sinminting, 37 miles to the north, forming the advanced *échelon* of the left of Nogi's army; then it was continually fighting to the north of Mukden, in constantly outflanking the Russian right, which was resisting the enveloping movement. A brigade of the 16th Corps, drawn from the general reserve at Mukden and sent as a flank guard, was almost destroyed: it was beaten and surrounded, having been attacked in front by Nogi's infantry and in rear by the cavalry. It only rejoined the army on the 5th March. On the 9th March the Japanese cavalry succeeded in cutting the railway between Mukden and Tieling; it harassed without ceasing the retreating Russians, and seized great quantities of *matériel*. We have already seen that the rout of the Russian right was brought about by the action of a force of cavalry, which, with guns, was thrown between the armies of Kaulbars and Bilderling.

The Japanese cavalry, in spite of its numerical inferiority, thanks to its being employed rationally, did just what one would have expected of it.

(To be continued.)

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Captains—P. Vaughan Lewes, D.S.O., to "Hyacinth"; R. S. Lowry to "Russell"; F. C. Noel to "Hood"; R. H. Anstruther to "Brilliant"; H. A. Tyler to "Sirius"; A. Moggridge to "Hogue"; C. H. Moore to "St. George"; A. Ricardo to "Empress of India"; F. S. Miller to "Sutlej"; F. E. Brock to "Triumph"; W. L. Grant to "Hawke"; C. J. Baker to "Edgar"; F. C. Pelham to "Albion"; A. Hayes-Sadleir to "Resolution."

The first-class battle-ship "Queen" arrived at Portsmouth on the 28th ult. from the Mediterranean; she paid off at that port on the 7th inst., recommissioned on the 8th, and is to return to the Mediterranean for another term of service. A disastrous explosion occurred on the 16th ult. on board the first-class battle-ship "Prince of Wales" in the Mediterranean while running a series of full-speed trials; the connecting rod-bolts of the port high-pressure engines and the top of the port cylinder cover were fractured; three stokers were killed and four others injured.

The first-class armoured cruiser "Hogue" arrived at Plymouth from China, convoying the destroyers "Flying Fish" and "Star" from Gibraltar to England. The first-class armoured cruiser "Sutlej," also from China, arrived on the 28th ult. at Spithead.

The second-class cruiser "Hyacinth," which arrived at Plymouth on the 30th March, after having been relieved as flag-ship in the East Indies by her sister-ship, the "Hermes," paid off on the 20th ult. at Devonport. The second-class cruiser "Bonaventure" arrived at Plymouth on the 7th ult. with the destroyers "Exe," "Dee," "Itchen," "Ettrick," "Erne," and "Arun," which she had convoyed home from China; she will pay off at Devonport and be refitted at Haulbowline.

The third-class cruiser "Katoomba" arrived on the 3rd ult. at Portsmouth from Australia, and will pay off at that port; the third-class cruiser "Wallaroo," also from Australia, paid off on the 10th ult. at Devonport; the orders for her to be sold out of the Service have been cancelled.

The Admiralty have ordered the 21 torpedo-boat destroyers which have arrived from abroad or are on passage to England to be temporarily allocated to the home ports as follows:—To Devonport: "Quail," "Arun," "Erne," "Ettrick," and "Itchen"; to Chatham: "Panther," "Orwell," "Sprightly," "Seal," "Thrasher," "Myrmidon," and "Bat"; to Portsmouth: "Earnest," "Lively," "Kangaroo," "Crane," "Star," "Flying Fish," "Locust," "Dee," and "Exe." The "Quail" will be reduced to nucleus crew for service as tender to the "Vivid," and the "Arun," "Erne," "Ettrick," and "Itchen" will remain in full commission as tenders to the "Vivid." The "Panther," "Orwell," "Sprightly," "Seal," and "Thrasher" are to pay off and recommission with nucleus crews as tenders to the "Pembroke," and the "Myrmidon" and "Bat" are to remain in nucleus crew commission for service as tenders to the same ship. The "Locust" is to remain in full commission

as tender to the "Victory," the "Exe," "Dee," "Earnest," and "Lively" are to be reduced to nucleus crews for similar service; the "Flying Fish" will pay off and recommission with a nucleus crew, and the "Star" will remain in nucleus crew commission, all as tenders to the "Victory," for which service the "Kangaroo" and "Crane" have already been recommissioned with new nucleus crews.

The second-class cruiser "Scylla," flying the broad pennant of Commodore Sir A. W. Paget, A.D.C., with the "Latona" and "Sappho," detached for duties in connection with Newfoundland fisheries, arrived at Spithead on the 5th ult. and disembarked 120 Newfoundland Royal Naval Reserve men, who were distributed in equal numbers between the three ships for the cruise. The men, after spending a couple of days in London, where they were inspected by the Admiralty, returned to Newfoundland by steamer from Liverpool. The squadron, under the command of Commodore Paget, since the conclusion of the fishery season last October, has been on an extended cruise to show the flag in the West Indies and along the coast of South America, where the principal ports were visited. The Newfoundland Naval Reserve men have thus been enabled to put in some five months' service on board the ships of the squadron, which they seem to have much appreciated.

Sinking of Torpedo-boat No. 84.—The following message was received at the Admiralty on the 18th ult. from the Commander-in-Chief, Mediterranean:—

"Regret to inform during operations off Malta, on night of 17th April, torpedo-boat 84 was run into by the "Ardent" and sunk. Crew saved; but Gunner (T.) Thomas Courtis, of the "London," who was second in command of the torpedo-boat, has since died from injuries received in collision.

" "Ardent" now in dock, bow damaged."—*Times and Naval and Military Record.*

AUSTRIA-HUNGARY.—The following are the principal appointments which have been made: Rear-Admirals—Leopold Ritter von Jedina, to Command of Evolutionary Squadron; Anton Haus, to Command of Reserve Squadron.—*Militär-Zeitung.*

The Evolutionary Squadron, under the command of Rear-Admiral von Jedina, consists of the battle-ships "Habsburg," "Arpad," and "Babenberg," the first-class armoured cruiser "Sankt Georg," the protected cruiser "Sziyetvar," three destroyers, and twelve torpedo-boats; Rear-Admiral von Jedina's flag is flying on board the "Habsburg."

A reserve division was constituted in January last, consisting of the "Monarch" (as flag-ship), the "Wien," and "Budapest," under the command of Rear-Admiral Anton Haus; the squadron is stationed at Fasana, on the Istrian coast.

The Matériel of the Fleet.—Austria-Hungary possesses at the present time three modern battle-ship divisions, of which the two first were constructed between 1895 and 1900. The first and oldest division consists of the "Monarch" and her sister-ships, the "Wien" and "Budapest"; these ships were followed by the "Habsburg," "Babenberg," and "Arpad," vessels larger, better protected, and more powerful

in every way than the "Monarch" class. The third division, of which one ship only is as yet ready for sea, consists of the "Erzherzog Karl" (launched in 1903), the "Erzherzog Friedrich" (launched in 1904), and the "Erzherzog Ferdinand Max" (launched last year). These three ships, again, are larger, and improvements again on the "Habsburg" class.

The Navy only possesses three modern armoured cruisers, the "Kaiserin und Königin Maria Theresia," the "Kaiser Karl VI.," and the "Sankt Georg," with two large and three small protected cruisers. There was a considerable increase in the Estimates last year, and a part of the sum voted for new construction has been devoted to the replacing of the torpedo flotillas, most of the vessels composing which had become quite obsolete. In order to do this as quickly as possible and to prevent the necessity of trying different types, and at the same time to afford work for the home yards, it was determined to order a destroyer and sea-going torpedo-boat from Messrs. Yarrow, which would serve as models. This was done, and the destroyer "Huszar" and the torpedo-boat "Kaimon" were constructed in England, and arrived from the builders towards the end of the year, and as they completely fulfilled the contract conditions, six destroyers and ten torpedo-boats have been laid down, and are being constructed by the Danubian firm at Fiume, while five destroyers are being constructed by the "Stabilimento Technico" at Trieste, which have been named the "Ulan," "Streiter," "Wildfang," "Scharpshütze," and "Askole." The destroyers are to have a displacement of 390 tons, with engines developing 6,000-I.H.P., giving a speed of 28.5 knots; the torpedo-boats will have a displacement of 200 tons, with engines developing 3,000-I.H.P., and giving a speed of 25.7 knots.

The old battle-ship "Kronprinz Erzherzog Rudolf" and the "Kronprinzessin Erzherzogin Stephanie," both launched in 1887, with the "Tegethoff," launched in 1875, have been struck off the lists, as well as the small cruiser "Tiger." For some years the three battle-ships had been allocated to local defence purposes.

Steam Trials.—The new first-class battle-ship "Erzherzog Karl" completed her trials last year with brilliant success, the contract speed of 19.2 knots being exceeded by more than a knot. At the 12 hours' coal-consumption trial, with the engines developing 6,434-I.H.P., and making 100.5 revolutions, a speed of 15.8 knots was maintained, with a coal consumption of 0.87 kg. (1.91 lbs.) per I.H.P. per hour, and 109.6 kg. (241.1 lbs.) per square metre of grate surface, with 8 boilers in use; at a further trial of 12 hours, with the engines developing 9,311-I.H.P., and making 114.1 revolutions, a speed of 17.7 knots was obtained, with a coal consumption of 0.511 kg. (1.124 lbs.) per I.H.P., and 99 kg. (217 lbs.) per square metre of grate surface, with 12 boilers alight; at a 4 hours' full-speed trial under natural draught, with the engines developing 13,180-I.H.P., and making 126.5 revolutions, a speed of 19.1 knots was obtained, with a coal consumption of 0.817 kg. (1.79 lbs.) per I.H.P. per hour, and 141.2 kg. (310.6 lbs.) per square metre of grate surface, 12 boilers being alight; while during a two hours' trial under forced draught, with the engines developing 18,386-I.H.P., and making 140 revolutions, the mean speed on the measured mile was 20.3 knots. The displacement of the ship during the trials was 10,638 tons, with everything on board except provisions, of which there was only half the sea supply. The air pressure during the forced-draught run was from 45-50 mm.

(1·8 to 2 inches), the coal consumption being 0·92 kg. (2·02 lbs.) per I.H.P. per hour, or a consumption of 216 kg. (475 lbs.) per square metre of grate surface, with the whole 12 boilers in use.

A sister-ship, the "Erzherzog Friedrich" also successfully completed her trials in January. At the 4 hours' full-speed trial under natural draught, with the engines developing 14,100-I.H.P., and making 126·6 revolutions, a mean speed of 19·06 knots was maintained; at the 2 hours' full-speed trial, under forced draught, with the engines developing 18,340-I.H.P., and making 137·3 revolutions, a mean speed on the measured mile of 20·56 knots was attained. These results were considered so satisfactory that no further trials were deemed necessary.

The new first-class armoured cruiser "Sankt Georg" has also successfully concluded her trials. At the 12 hours' coal-consumption trial, with the engines developing 6,322-I.H.P. and making 103·03 revolutions, the mean speed was 17·54 knots, with a consumption of 1·06 kg. (2·33 lbs.) per I.H.P. per hour, and 143 kg. (314 lbs.) per square metre of grate surface, eight boilers being in use; at the second 12 hours' trial, with the engines developing 9,206-I.H.P., and making 117 revolutions, the mean speed was 19·6 knots, with a coal consumption of 0·99 kg. (2·17 lbs.) per I.H.P. per hour, and 130·7 kg. (287·5 lbs.) per square metre of grate surface; at the 4 hours' full-speed trial under natural draught, the engines developed 13,095-I.H.P., making 130·1 revolutions, the mean speed of 21·3 knots was maintained; and at the 2 hours' full-speed trial under forced draught, with the engines developing 15,271-I.H.P., and making 134·9 revolutions, a speed of 22·01 knots was maintained on the measured mile. The displacement of the "Sankt Georg" at the time of her trials was 7,420 tons, complete for sea, except provisions, of which half the full stowage only was on board.—*Mittheilungen aus dem Gebiete des Seewesens and Marine Rundschau.*

FRANCE.—The following are the principal promotions and appointments which have been made: Rear-Admiral—H. A. Jauréguiberry to be Vice-Admiral. Capitaines de Vaisseau—L. V. Marin-Darbel to be Rear-Admiral; J. M. Fargues to "Hôche"; P. A. M. Le Bris to "Pothuau." Capitaines de Frégate—B. M. de Saint-Pern, F. Z. Jan-Kerguelst to be Capitaines de Vaisseau; E. L. Martinie to Command of Fixed Defences, Lorient; G. Lejay to "Durandal" and Command of 2nd Torpedo-boat Flotilla in the Channel; P. A. M. Ronarch to "Mousqueton" and Command of Destroyer Flotilla of the Mediterranean Squadron.

Rear-Admiral De Fauque De Jonquières has been appointed Naval Attaché at Berlin; this is the first time an officer of flag rank has been appointed to such a post.

The first-class armoured cruiser "Marseillaise," flying the flag of Rear-Admiral Campion, commanding the Cruiser Division of the Mediterranean Squadron, left Toulon on the 2nd ult. for Annapolis (United States); at the Azores she was joined by two sister-ships, the "Condé" and "Amiral Aube," and the squadron represented the French Government at the interment of the remains of Paul Jones in American soil, after their transference from France.

The Loss of the "Sully."—A court-martial assembled at Toulon on the 30th March for the trial of Capitaine de Vaisseau C. C. Guiberteau, late in command of the first-class armoured cruiser "Sully," which was wrecked on the 7th February, 1905, by striking on a rock in the Henrietta

Channel, Aloing Bay, Cochin China, while at torpedo practice. The Court was composed of Vice-Admiral Caillard (President), Rear-Admirals Jauréguiberry, Germinet, Fort, and Krantz, and Capitaines de Vaisseau Sauvan and R. Foy. The court-martial resulted in the acquittal of Capitaine de Vaisseau Guiberteau.

New Ships.—The new first-class battle-ship "République," having received her armament, and being in all other respects ready, has been placed in the roadstead at Brest, and having received her reduced complement, is now to carry out her steam and other trials; she is the first of the battle-ships of the 1900 Programme to be completed.

Orders have been received at Brest and Lorient for the laying down of the two new 18,000-ton battle-ships, "A16" and "A15" respectively; the remaining four are to be built in private yards. All six ships are to be completed within four years. Their characteristics, which have now been finally approved by the Minister of Marine, are as follows:—Length, 475 feet 7 inches; beam, 84 feet; draught, 27 feet 6 inches, with a displacement of 18,000 tons. The armament will consist of four 12-inch guns in two turrets, one forward and one aft; twelve 9·4-inch guns in pairs in turrets, three on each broadside; sixteen 12- and eight 3-pounders, with two submerged torpedo-tubes. The engines are to develop 22,500 I.H.P., giving a speed of 19 knots. Details of the armour have not yet been published. The cost of each ship will be 47,851,558 francs (£1,914,062), of which it is proposed to spend 2,717,340 francs (£108,693) during the present year. The ships are to be called the "Voltaire," "Diderot," "Condorcet," "Vergniaud," "Mirabeau," and "Danton."

Gunnery Training: New Regulations.—On account of the proved necessity for long-range fire, the Department of Marine has been occupied lately in improving the optical apparatus for sighting guns at long ranges; the delicate adjustment and fitting of telescopic sights could only be undertaken when the different ships happened to be in the dockyards. Hence there has been some delay, but most of the large vessels are now provided with sights for firing up to ranges of 9,000 yards, though the men are not yet thoroughly trained in their use.

Up to recently ships have been supplied for their quarterly firing with a special practice ammunition with a reduced charge, and it has only been once a year that full charges have been fired. A recent circular, however, has abolished in principle practice ammunition, and from 1907, when all this class of ammunition will have been expended, only full battle charges will be used at target practice.

This reform will undoubtedly be of great benefit to the guns' crews in accustoming them to firing the battle charges, and by keeping up a regular expenditure it assures that the powder will not have deteriorated from having been kept too long in stock. There is also the further advantage that on mobilising, ships will not be delayed by having to exchange practice for battle ammunition as formerly.

Training in gunnery has up to now been carried out on board the "Couronne" gunnery-ship, but this old vessel no longer fulfils modern requirements, and it has been thought advisable to institute an additional gunnery course at sea. The armoured cruiser "Pothuau" has been selected as suitable for the purpose, and to her officers and men will be passed on from the "Couronne." She is not quite up to date as a fighting ship, and so can be best spared from the fleet. Her guns, how-

ever, are on modern mountings, such as are usually in use in the French Navy. A decree instituting the *Ecole d'application de tir à la mer* on board the "Pothuau" appeared in the *Journal Officiel*, of 22nd February.

Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued).—The Question of Speed.—On the vexed question of speed, M. Bos makes the following comments:—"Speed is one of the essential elements in a modern battle-ship. That nobody denies, but there exists a very considerable difference of opinion as to the amount of importance to be attached to it, and it is necessary to be careful not to exaggerate the arguments on one side or the other.

"Speed is costly. In order to realise it in a ship which is to keep the sea in all weathers, steam fast even in a heavy sea, and carry a powerful armament, a large displacement is first of all necessary; powerful engines and numerous boilers follow, in addition to a large coal supply. And yet in a really heavy sea the ship must reduce her speed.

"To obtain an extra knot of speed, after a certain point has been reached, means an additional four or five thousand horse-power in order to gain it.

"But in spite of this, speed is none the less necessary. It allows the weaker of two adversaries to avoid battle and await reinforcements which may be promised him. On the field of battle it enables its possessor to remain master of the position, to prepare and execute enveloping movements and to engage as suits himself, and to overhaul an enemy which may be disabled or seeking safety in flight. With superior speed, in fact, one is ready for anything.

"But in order that this tactical speed may be of use, there must be a superiority of at least two to three knots.

"It is remarkable that in the Russo-Japanese War the highest speed has not played the rôle which people thought it would. In spite of the 20 knots that they reached on their trials, the three armoured cruisers of the Vladivostok Squadron, the 'Gromoboi,' 'Rossia,' and 'Rurik,' were unable to reach Port Arthur and force the blockade. The 'Bayan,' with the same speed, also effected nothing. Togo's armoured cruisers do not seem to have made much use of theirs; as a matter of fact, they fought and manœuvred at 20-knot speed, and a division may be obliged to realise that speed if it is to take up a desired battle position.

"On the 9th February the 'Varyag,' in spite of her speed of 23 knots, was disabled and obliged to return to Chemulpo before she could pass across the Japanese line. The 'Askold,' at the battle of the 10th August, succeeded in escaping, but this was not due to her 23-knot speed, which she was unable to realise owing to the damage to her funnels, but rather to the fact that the Japanese ships had run short of ammunition for their heavy guns. To this also the 'Diana' owed her escape.

"With regard to the protected cruisers, which were present at the battle of Tsushima, the 'Almaz,' which reached Vladivostok, and the four others, under Admiral Enquist, which reached Manila, did doubtless owe their escape to their speed, but then they took hardly any part in the fighting, and escaped before Togo had executed his enveloping movement.

"At Tsushima neither the battle-ships nor armoured cruisers of Togo exceeded 16 knots, although the Japanese battle-ships had on their trials steamed from 18.5 to 19 knots, and the armoured cruisers had realised from 21.5 to 22.5 knots. With regard to Rodjestvensky, who was obliged to regulate the speed of his new battle-ships by his old ones, and whose

ships were also rendered slower by the state of their hulls, engines, and boilers, the highest speed that he could allow for was only from 12 to 13 knots. There was thus a difference of speed of at least three knots between the two fleets, and this tactical difference enabled Togo to carry out his tactical plans in a sea he knew well and close to his bases of operation.

"That which is then of first importance is homogeneity of speed, as the complement of homogeneity in armament, armour, etc., for all the battle-ships of a squadron, so that they can all, when necessary, proceed at the same rate of increased speed.

"With regard to *maximum* speed, it is not possible to aim at going beyond a certain limit except by sacrificing something in the armament or of reaching with a powerful armament excessive displacements and an unheard-of monetary cost. And with us this last solution could only be partially adopted, as we should be compelled to reconstruct all our docks at home and enlarge their entrances.

"Foreign Navies, already profiting by the lessons of the Russo-Japanese War, have commenced the construction of new battle-ships, which are to have a speed of from 18 to 20 knots. For ourselves it seems that if we cannot exceed a displacement of 18,000 tons, which is large and represents a cost of from 46 to 48 millions of francs (£1,840,000 to £1,920,000), it will be possible to give a speed of 20·5 knots, or a sea speed when necessary of 19 knots."

The Fighting Ship.—M. Bos then proceeds to give once more the particulars which in his opinion will go to make up the fighting ship of the future, whether she is called a battle-ship or armoured cruiser, and he adds some calculations as to the distribution of weight in the new ship, with a given displacement of about 18,000 tons, which seems to him to meet the demands now made:—

	Per cent. of displacement.	Tons.
Hull complete	34	6,052
Armour	31	5,518
Engines, boilers, pipes, etc.	11	1,950
Guns... ..	10	1,780
Torpedo-Equipment	Nil.	Nil.
Coal, etc.	8·20	1,480
Crews, provisions, drinking water, etc. ...	1·80	310
Masts, anchors, cables, electrical fittings, etc.	2·00	360
To spare	2·00	360
Total... ..	100	17,810

Armament.—Sixteen 27·4-cm. (10·8-inch).

Guns in pairs in turrets, one forward, one aft, and three on each broadside.

Twelve 14-pounders in a battery protected by 6-inch armour.

Twelve 3-pounders, similarly protected.

Protection.—Side armour 8·6 inches, extending to after turret, with lower streak 7·8 inches, tapering to 5 inches; turrets for heavy guns, 11·8 inches, and battery 6 inches.

Engines.—Two only and twin screws, instead of three, developing 25,000-I.H.P., with a weight of 78 kilos. (171 lbs.) per horse-power; that is, 1,950 tons.

Speed.—20·5 knots.

"We have selected," says M. Bos, "the 10·8-inch gun because it is lighter than the 12-inch, but will at the same time penetrate the thickest armour which ships are likely to carry in the future. If the ship is fighting an end-on action, whether ahead or astern, she will be able to bring six guns to bear, viz., two from either fore or aft turret, as the case may be, and four from the two foremost or two aftermost of the turrets on the broadside; if she is fighting a broadside action, she can bring ten guns to bear on her opponent from the fore and after turrets and from three of the turrets on the broadside. As only one type of heavy gun is carried, if a broadside action is being fought, there will be no difficulty in keeping up a continuous supply of ammunition and maintaining fire for a longer period than would be the case if the heavy guns were of different calibres."

M. Bos repeats his view, expressed in his Report on the Budget last year, that the tendency is all towards the fusion of the battle-ship and armoured cruiser. The new armoured cruisers have almost as great a displacement as the battle-ships of the 1900 Programme, and the day is not far distant when fusion will result through the battle-ship giving up some of the armour protection in favour of speed, while the cruiser will yield something in speed to better protection and a more powerful armament. Especially is this the case in the newest armoured cruisers designed in England and Japan, which are really second-class battle-ships. According to information supplied to the Ministry of Marine, the type of new armoured cruiser adopted by the Japanese, who have the advantage of being guided by their practical experience gained during the war, will have a displacement of 14,000 tons, a speed of 21 knots, a coal stowage of 2,000 tons, and an armament of four 12-inch guns, eight 10-inch guns, with six 4·7-inch Q.F. guns, which have been substituted for the 6-pounder Q.F., considered now too weak. These ships will then be really fast battle-ships.

In the matter of armoured cruisers, or "cruisers with armour," as they should be called, M. Bos thinks it time that France should call a halt, as when the new programme is completed in 1909 she will have enough vessels of that class; but he considers that none of these vessels are armed as they ought to be, as none of them could hope successfully to engage the new English armoured cruisers of the "Duke of Edinburgh" type, with their 9·2-inch guns, and for a similar reason they could not be put into the fighting line against foreign battle-ships.

"Logically," he continues, "if it is considered that the 23-knot 'cruiser with armour' is one day to replace the battle-ship, it will be imperative to give her a heavier armament than the latter, as she is less well protected, and she must be able to fire from a greater range. But the contrary is the case with us, and our vessels of this type can only risk an action with vessels of a similar class or protected cruisers. As out of the eighteen we shall possess in 1909, seven or eight will have cost almost as much as a battle-ship, one can only regret such mistakes. Very fortunately there is still time to prevent our repeating them.

It comes to this, that our present armoured cruisers, or rather "cruisers with armour," are not ships of battle. They are all that one can wish except that: commerce destroyers and scouting ships, whose employment is very costly on account of the amount of coal they burn. Before battle-ships they have to run; and what is the good of a ship which cannot fight? The truth is, that while having sufficient speed, the

"armoured cruiser" must also be efficiently protected and powerfully armed. That is the only type of ship possible. If instead of the five "cruisers with armour" of the 1900 Programme, and the three laid down posterior to that, we had built an homogenous squadron of "armoured cruisers," with a 20-knot speed, and carrying sixteen 10·6 or even 9·4-inch guns, we should be in a much better position than we are in to-day.

There are still some people, however, who, faithful to old traditions, tell us that the "cruisers with armour" (the cavalry of the force) are necessary for scouting purposes, to complete the work of destruction, and to run down fugitives. However this may be, this sort of naval cavalry is very costly.

In view of their costliness and weak armament, our thoughts naturally turn to the 25-knot scouts of 3,500 tons, or to auxiliary cruisers, which can do scouting work equally well and at a less price. We may even ask whether the "scouts" will not soon make way for 35-knot turbine destroyers of 1,200 or 1,500 tons. The English and Germans are already beginning to adopt this theory. For pursuing disabled fugitives the heavily armed "armoured cruiser," with destroyers of 400 or 500 tons, would be of a good deal more value than the "cruiser with armour."

We will next consider the fighting ships proposed in conformity with the Superior Council of the Navy. — *Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine).*

(To be continued.)

UNITED STATES.—*Building Programme of the Navy General Board.*—Of far-reaching importance, because it really constitutes the only building programme the Navy has, is the report of the General Board of the Navy made to Secretary Morton on 28th October of last year, for his guidance in making up his recommendations to Congress for new ships. The report, which is signed by Admiral Dewey as President of the Board, gives the reasons for the request for three battle-ships instead of two, the omission of armoured cruisers, and in general sets forth the ideas of the Board about naval increase. Elsewhere we give the report of the Board on Construction upon the recommendations of the General Board, and while the two in effect are much the same, the line of reasoning of the two Boards in parts presents interesting differences. The report, which is signed "George Dewey, Admiral of the Navy, President of the General Board," begins:—

"The General Board respectfully submits the following recommendations on numbers and types of ships to be authorised by Congress at the coming Session. In respect to numbers, this report is based upon the general programme of construction adopted by the General Board on 17th October, 1903, and reiterated, after prolonged discussion, in its final report of 26th January, 1904, which has been essentially confirmed by the studies of the Naval War College during the past year—taken in comparison with the ships actually authorised by the last Appropriation Act [27th April, 1904], and modified in one particular (protected cruisers) by later experience and consequent change of professional opinion. In respect to the characteristics of the several classes, the report is based upon the General Board's final recommendations of January last—all of which were pronounced feasible by the Board on Construction—modified as to the battle-ship type by the trend of professional opinion at home and abroad, which was foreshadowed in the General Board's discussions last year, and has been reinforced by the experience of later target practice and of the present war in the East."

After stating its recommendations, the Board, in its report, says :—

“Three battle-ships are recommended because the general programme of construction proposed in compliance with Secretary Moody's order to ‘assume such strength for the Navy as seems to the Board essential to the interests of the country,’ contemplated two battle-ships last year and two this year, and Congress last year authorised only one. Similarly, no armoured cruisers are recommended this year, because the programme called for one each year and Congress authorised two last year. Protected cruisers of the type recommended last year are wholly omitted this year, because there is good reason to expect better general efficiency than could have been expected from the new type of scout cruisers now being designed, and the General Board is of opinion that these vessels can do practically all the work expected of the protected cruiser type in time of peace; and for procuring and transmitting information in time of war, the more numerous fleet of scout cruisers, acting in conjunction with armoured cruisers, will, on the whole, be of better service than the number of larger protected cruisers that could be built for the same total cost. Five scout cruisers are recommended to keep pace with the programme of construction, which called for four each year, Congress having authorised only three last year. More would be recommended to make up for the omission of the protected cruisers but for the fact that the new scout cruiser type is as yet untried in active service. Similarly, six destroyers are recommended to make up for the deficiency of last year's Appropriation Act, which authorised none. Torpedo-boats are added to the programme because the General Board is impressed with their value as a powerful element in the defence of the extended sea-coast of this country, along which there are many places where the deeper draught destroyers cannot navigate. The service performed by the Japanese torpedo-vessels, both destroyers and torpedo-boats, is sufficient argument for continuing the building of both types. The number of squadron colliers recommended is the same as last year. Colliers of the type required for the service of a fleet are unobtainable in the merchant marine, and are even more necessary to the Fleet before the completion of the Panama Canal than they will be afterwards.

“In addition to the foregoing vessels”—the three battle-ships, five scout cruisers, six torpedo-boats, six destroyers, and two squadron colliers —“the General Board recommends that the following special types be authorised this year :—

“One gun-boat of the “Helena” class for service in the inland waters of the Asiatic station.

“Two launches of not more than 16 inches draught for service in the upper Chinese rivers, of strong and durable construction, having a speed of 9 or 10 knots, armed with 1-pounder and one machine gun, and capable of carrying an armed force of sixty men with their equipments and rations for a week.

“Two small gun-boats for service in the inland waters of the Philippines, not over 70 feet in length and 3 feet draught, mounting 1-pounder and two machine guns, and having habitable quarters for an adequate crew.

“The cost of these special types would make an inconsiderable addition to the sum of the appropriation above proposed. The General Board further recommends that when the gun-boats of the present Philippine flotilla become unserviceable, they be replaced by suitable vessels built on the Asiatic station.

"With regard to submarines, the General Board understands that the sum of \$850,000, appropriated by the Act of 27th April, 1904, is still available. If so, no further appropriation is recommended this year. If not, the General Board recommends that the same amount be re-appropriated. And in any case the General Board recommends that the building of submarines be expedited."

Regarding the estimates for three new battle-ships, the General Board says:—"In order to secure the homogeneity of squadrons, and since the battle-ships now authorised will be intended to combine in squadron with the "Connecticut" class, the General Board recommends that their displacement, speed, steaming radius, and manœuvring qualities be the same as the "Connecticut." Having fixed upon the "Connecticut" as the standard as to displacement and dimensions, there should be no departure from that vessel in the concomitant tactical features of speed and steaming radius without grave reasons, which do not appear to exist. Certainly no less speed than her 18 knots can be considered; and an increase, such as the 19 knots of the five smaller "Georgias," can be obtained only by a material sacrifice in some other direction which is not desirable. It is true that the five smaller "Georgias," if associated in squadron with three 18-knot "Connecticuts," would, as pointed out by the Tactical Committee of the Naval War College, lose the advantage of that tactical quality for which a sacrifice has been made in other features; but the General Board considers that to be a less evil than to make any sacrifice in guns or armour of new vessels. Moreover, the "Connecticut's" speed will probably differ less than one-half knot from the "Georgia's." If, by reason of improvements in engines or boilers or hull design, the same speed, 18 or 18½ knots, can be obtained with less weight of machinery, the General Board is of the opinion that it would be still better to ensure only that speed, and utilise the saved weight in additional armour and armament.

"The only feature in which a departure should be made from the "Connecticut" are the armour and armament. It is not essential that the gun powers of different ships of a squadron should be identical, provided they do not differ so as to affect the relative strength of end-on and broad-side fire. And a superiority in end-on fire, for instance, is not to be deprecated unless accompanied by a corresponding diminution of broad-side fire. The greater accuracy at long ranges of heavy guns as compared with lighter ones, their relatively as well as positively increased rapidity of fire, their greater collective effectiveness against armoured ships, and the evidence furnished by the war in the East that naval battles will be most often fought at long ranges—all point to increasing the number of heavy guns at the expense of the intermediate battery.

"Examination of the damage sustained by the Russian ships reveals a reported great preponderance of hits from heavy guns. It is true that any error in the estimation of sizes must be in the direction of the larger calibre. Steel plates do not close behind a shot as did wooden sides, but all holes are larger than the shot that makes them—especially in the instances under consideration, because the exceedingly sensitive Japanese fuses make their shell burst while going through the side. Nevertheless, considering that the long fighting ranges were near if not beyond the limit of the smaller guns' power, and that the accuracy of the bigger gun is naturally the greater, there seems no reason to doubt the general correctness of the reports.

"The General Board is of the opinion that we should not defer making this change in the armament of battle-ships. Incidentally it cannot fail

to simplify the problems of ammunition supply and fire control, both of which powerfully influence rapidity and accuracy of fire. The General Board therefore recommends that, if found practicable, the battle-ship be given a battery of heavy turret guns, none of which shall be less than 10 inches, and at least four of which shall be 12 inches, without intermediate battery, the secondary battery to be unprotected by armour, the smoke-pipe and air-ducts to be protected if possible as far as the upper deck by heavy armour. There should be no needless multiplication of calibres, and no introduction of new calibres, such as 9-inch or 11-inch guns. Furthermore, the change in battery from existing types must not entail any increase of weight to be compensated by diminished armour or coal; but rather, on the contrary, any weight saved should be added to the protection of flotation, stability, and steering gear. Finally, the increased ammunition supply necessitated by the increased rapidity of fire of heavy guns should be borne in mind. The battle-ships should carry submerged torpedo-tubes, one on each side, or preferably two on each side.

"The foregoing description of the new battle-ships' battery is expressed in somewhat general terms; but it cannot be made more specific until the Bureau of Construction and Repair has completed the tentative design asked for by the General Board on 26th January, 1904.

"No discussion of the characteristics of the armoured cruiser type is here given, because, for reasons before stated, no vessels of that class are recommended this year."

Of the five scout cruisers recommended, the Board says:—

"The General Board has just received from the Bureau of Construction and Repair preliminary plans showing that a speed of 24 knots, a steaming radius of 5,000 miles, and an armament of twelve 3-inch guns and two submerged torpedo-tubes have been found practicable in the new design within the limits of 3,750 trial displacement prescribed by the Appropriation Act. These features are suggested by the Board on Construction as the best practicable fulfilment of the general requirements recommended in the General Board's final report of last January. The General Board regards these preliminary plans as entirely satisfactory, particularly in respect to the large steaming radius, and recognises the advantages in scout cruisers, as in battle-ships, of avoiding multiplicity of calibres.

"The General Board recommends for destroyers a trial displacement of 400 to 450 tons (like those of the flotilla that went to China and the later "Truxtun"), with the coal capacity and battery of the "Truxtun," of very strong construction for safety and efficiency in rough weather, and the highest speed found attainable in association with those features, and durable machinery. The great value of a powerful battery has been emphasised in the Russo-Japanese war. This is substantially the same type as recommended last year.

"The torpedo-boats recommended are of the "Morris" type, and must be capable of passing under their own steam through the canals and inland waters from New York to the Sounds of the Carolinas.

"The General Board recommends the same type of squadron collier as described in its report last year (26th January, 1904.)"—*U.S. Army and Navy Journal*.

MILITARY NOTES.

HOME.—The following are the principal appointments which have been made:—

Lieut.-Generals—Lieut.-General the Hon. Sir N. G. Lyttelton, K.C.B., Chief of the General Staff, to be General.

Major-Generals—Major-General Sir Beauchamp Duff, K.C.V.O., C.B., C.I.E., I.A., is granted the rank of Lieut.-General in the Army. Major-General J. C. Dalton, from Commanding Royal Artillery, Gibraltar, to be Inspector of Royal Garrison Artillery.

Colonels — Lieut.-Colonel and Brevet Colonel H. R. Kelham, C.B., from h.p., to be a Brigadier-General, to Command the Lowland Grouped Regimental District, and is granted the substantive rank of Colonel, with the temporary rank of Brigadier-General whilst so employed. Colonel T. Perrott, C.B., from a Commander Royal Garrison Artillery, to be a Brigadier-General, to Command Coast Defences, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel C. W. Park, A.D.C., to be a Brigade Commander in India, with the temporary rank of Brigadier-General whilst so employed. Colonel C. A. Anderson, C.B., to be a Brigade Commander in India, with the temporary rank of Brigadier-General whilst so employed.

To be Colonels on the Staff in India: Colonel M. H. S. Grover, I.A., Colonel E. H. Molesworth, I.A., and Lieut.-Colonel and Brevet Colonel H. L. Dawson, C.V.O., C.B., I.A., who is granted the substantive rank of Colonel in the Army. To be D.A.G. at Headquarters, India: Lieut.-Colonel and Brevet Colonel F. C. Beatson, C.B., from the Duke of Edinburgh's (Wiltshire) Regiment, and is granted the substantive rank of Colonel in the Army. To be A.A.G. of a Command: Colonel A. H. M. Edwards, C.B., M.V.O. To be A.Q.M.G. at Headquarters, India: Colonel F. G. Bond, C.B. To be A.Q.M.G. of a Command: Lieut.-Colonel and Brevet Colonel J. G. Ramsay, C.B., I.A., and is granted the substantive rank of Colonel in the Army; and Colonel A. B. Fenton, I.A.

Colonel F. T. Clayton, C.B., from Assistant Director of Transport, to be Director of Supplies at Headquarters, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel H. M. Carter, C.B., from a Chief Inspector, A.O.D., to be an Assistant Director at Headquarters, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel E. R. Kenyon, from h.p., to be a Chief Engineer, and is granted the substantive rank of Colonel.

The General Annual Report of the British Army for the Year ending 30th September, 1905, was issued early in April last. The following table taken from it shows the establishment and strength of the Regular

Forces, Army Reserve, and Auxiliary Forces on the 1st October, 1905 :—

	ALL RANKS.			
	Estab- lishment (Army Estimates).	Strength.	Wanting to complete.	Supernu- merary.
Regular Forces :—				
Regimental { British Establishment ¹	211,028 ²	194,072	16,956 ²	—
Establishments { Indian Establishment ³	75,008	78,061	—	3,053
*Staff and Departments and Miscellaneous Establishments	2,752	2,752	—	—
	288,788	274,885	13,903	—
Army Reserve	104,000	94,770	9,230	—
Militia (United Kingdom) :—				
Permanent Staff	4,883	4,463	420	—
Militia	127,525	88,209	39,316	—
	132,408	92,672	39,736	—
Militia (Reserve Division)	7,500	7,657	—	157
Militia (Channel Islands, Malta & Bermuda) :				
Permanent Staff	178	160	18	—
Militia	5,566	5,108	558	—
	5,744	5,168 ²	576	—
Imperial Yeomanry :—				
Permanent Staff	348	348	—	—
Yeomanry	27,290	24,811	2,479	—
	27,638	25,159	2,479	—
Honourable Artillery Company :—				
Permanent Staff	5	5	—	—
Officers and Members	899	524	375	—
	904	529	375	—
Volunteers (Great Britain) :—				
Permanent Staff	2,123	2,023	100	—
Volunteers	339,699	250,337	89,362	—
	341,822	252,360	89,462	—
Volunteers (Bermuda) :—				
Permanent Staff	5	5	—	—
Volunteers	314	166	148	—
	319	171	148	—
General Total ...	909,123	753,371	155,909	157
			155,752	
*Militia Reserve — Old (included with Militia)	—	229	—	228

¹ This includes Indian Native Troops employed in the Colonies and North China.

² 13,000 men (Infantry) were included in the Establishments to cover "temporary excess of ordinary establishments."

³ These numbers do not include any officers or men of the Indian Army.

FRANCE.—*The Autumn Manœuvres for 1906.*—The 1906 manœuvres will be held under the following conditions, subject to Parliamentary credit vote on the War Budget for 1906.

1. *Army Corps Manœuvres.*

Army corps manœuvres will be carried out in the IInd Army Corps. These manœuvres will last for 11 days, not including the time necessary for movements of assembly and dislocation. For these manœuvres the 4th Infantry Division will be brought up to war strength; it will, in addition, be provided with the chief units for the service of supplies, which will act in conjunction with the services at the rear. The 3rd Cavalry Division, the group of the Zouave battalions from Paris, the 26th Chasseur Battalion, and the battalion of the 138th Regiment, quartered at Paris, will take part in these manœuvres. The artillery of the army corps will be completed: by 2 brigade divisions of the 6th Artillery Brigade, by a brigade division, and by 3 ammunition sections (1 infantry, 1 artillery, and 1 park) of the 19th Artillery Brigade, placed on a war footing, and to be attached to the 4th Infantry Division. The engineer service of the 4th Division will be completed by a bridging and by a park company. These 2 units will be on a war footing, and will be made up from the 3rd Regiment of Engineers.

2. *Fortress Manœuvres.*

A fortress manœuvre will be carried out in the VIIth Army Corps before Langres, under the direction of the President of the Committee on the Study of Siege Warfare. It will last for 18 days, not including the time necessary for the preparatory installation works, as well as for the movements for assembly and dislocation. The following will take part in this manœuvre, in addition to the special foot artillery and engineer troops, who will be attached to the wagon-trains and to the siege parks of the attacking force, and to the garrison of the defence, viz.: The 13th Infantry Division; 2 groups of the fourth battalions of the VIIth Army Corps; a regiment of the 7th Cavalry Brigade; and the 7th Artillery Brigade. The General Commanding the VIIth Army Corps will command the attacking, and the Governor of Langres the defending force.

3. *Division and Brigade Manœuvres.*

Division manœuvres will be carried out for a period of 14 days, including going and returning, in the 1st, IIIrd, IVth, VIIIth, XIIth, XIIIth, XIVth, XVth, XVIth, XVIIth, and XVIIIth Army Corps.

Brigade manœuvres lasting for 11 days, including going and returning, will take place in the VIth, IXth, Xth, XIth, and XXth Army Corps, in the 17th and 18th Brigades of the Vth, and in the 27th, 28th, 81st, and 82nd Brigades of the VIIth Army Corps. The 10th Division of the Vth Army Corps will not take part in these manœuvres.

The troops quartered in Corsica will carry out manœuvres lasting for 11 days, including going and returning.

^a The Warrant Officers, N.C.O.'s, and men of the Army Pay Corps (900) who are shown in Army Estimates under Staff and Departments, are shown above under Regimental Establishments. The Officers are shown under Staff and Departments.

^b Strength of Channel Islands Militia on 1st July, 1905.

^c This Reserve is gradually dying out.

4. *Camps of Instruction.*

In the 1st, IInd, VIth, Xth XIth, XIIth, XIIIth XVIth, and XXth Army Corps, which have available on their own or on neighbouring districts the camps of instruction of Sisonne, Châlons, Coëtquidan, la Courtine, Larzac, and Mailly respectively, the generals commanding the army corps are ordered to make a return of the whole of the credits at their disposal for autumn and garrison manœuvres, for the purpose of carrying out combined manœuvres in the camp, to ensure the carrying out of musketry and to organise autumn and garrison manœuvres to the best advantage of the troops under their commands. In addition, combined drills and musketry will be carried out: at the camp at Châlons, by the 7th Division of the IVth Army Corps, and by the 10th Division of the Vth Army Corps, at the camp at Mailly, by the 6th Division of the IIIrd Army Corps.

5. *Cavalry Manœuvres.*

There will be carried out: *a.* A general cavalry manœuvre lasting for 8 days, including going and returning, by the 1st and 5th Divisions, under the President of the Technical Cavalry Committee; *b.* 6 divisional manœuvres lasting for 11 days, including going and returning, by the 2nd, 3rd, 4th, 6th, 7th, and 8th Divisions; *c.* Brigade manœuvres or drills of an average duration of 10 days, including going and returning, by the cavalry brigades of army corps. This period will be modified for certain divisions and brigades. These brigades, or their units, will, in addition, take part in the autumn manœuvres of their respective army corps.

6. *Various Manœuvres.*

Independently of the manœuvres mentioned above, special manœuvres, which will form the subject of special instructions, will be carried out in the Vosges, the Alps, in Algeria, and in Tunis.

7. *Requisitioning Exercises.*

A reserve squadron and an artillery brigade division will be put on a war footing by means of requisitioned horses, under reserve of the vote of a special law. The district in which these two units will be formed will be selected later.

8. *Colonial Troops.*

The Colonial troops will take part, according to the credits which may be allotted for that purpose, in the various manœuvres of the Home troops belonging to the army corps districts in which the former are respectively quartered. The 5th Colonial Infantry Brigade, stationed in Paris, will manœuvre with the 6th Division of the IIIrd Army Corps. Expenses of all kinds resulting from the participation of the Colonial troops in the autumn manœuvres, especially those with regard to railway transport and horse hire, will be charged to the credits provided by the 2nd Section of the Budget.

9. *Special Dispositions.*

Infantry.—Infantry regiments will march to the manœuvres with their 4 battalions, with the exception of those regiments in which a fourth battalion is not completely formed, and those of the VIth, VIIth, XIVth, XVth, and XXth Army Corps, which will be composed of 3 battalions. Battalions of foot chasseurs will take part in the manœuvres with their respective army corps. The group of the Zouave battalions at Sathonay,

the units of the Lyons District Brigade quartered in that town, 2 Alpine battalions of the XIVth, and 2 Alpine battalions of the XVth Army Corps will take part in the manœuvres. The Alpine battalions will be selected by the generals commanding those army corps, and will be made up to 4 companies each. The 159th Regiment and the battalions of the Lyons District Brigade stationed in the Alps will not take part in the manœuvres.

Field Works.—The regulations of the 18th February, 1905, with regard to field works, must be rigidly adhered to. In the infantry, advantage will be taken of the manœuvres to familiarise battalion commanders with the employment of company wagons, by placing these wagons successively and in bulk at their disposal in each regiment. It must be remembered that the number of company wagons to be taken to the manœuvres must not be less than 1 per battalion. Should the chevaline resources permit, it will be of interest to increase that number. This recommendation especially applies to regiments of 3 battalions, where it is desirable that each battalion commander should, as in 4 battalion regiments, have at his disposal, in turn, the 4 company wagons.

Six-year-old Horses.—As a tentative measure, six-year-old horses will be used for draught purposes in the following brigades: 2nd Cuirassier, 2nd Chasseur, 7th and 8th Dragoon, 3rd Cuirassier, 6th Dragoon, and the 1st Chasseur. Generals commanding these brigades will most carefully watch that these six-year-old horses are not, on any pretext whatever, employed otherwise except for draught purposes, and especially must they prevent the substitution of a six-year-old horse used for draught, for a saddle horse suffering from a sore back, etc., to permit the latter to recover. Each corps thus experimenting will furnish a report on the results achieved. These reports will be forwarded to the War Minister by division and brigade commanders with their own remarks.

Ammunition.—The supply of blank ammunition will be regulated in conformity with a table attached to the instructions which give details regarding its issue and expenditure.—*Revue du Cercle Militaire.*

GERMANY.—*Imperial Manœuvres of 1906.*—The German Imperial Manœuvres of 1906 will take place under conditions slightly out of the common. A reinforced army corps—the VIth, in Silesia—will oppose 2 normal army corps. This has been known for some time, but precise details were not forthcoming.

The 2 normal army corps—the IIIrd in Brandenburg and the Vth in the province of Posen and in Lower Silesia—will form an army group under a general commanding and his staff. This is the first time this procedure has been adopted since 1897. Mention has been made of the participation of a brigade of Saxon infantry in the forthcoming manœuvres, but this information has no foundation in fact; only a brigade of field artillery, a transport battalion, and 2 Uhlan regiments will be drawn from the Saxon troops. To form the 3rd Division for the VIth Army Corps the 5th Brigades of the Vth and VIth Army Corps will be used. As divisional cavalry, the VIth Army Corps can profit by its strong cavalry of 5, instead of the usual 4, regiments. Two cavalry divisions will be formed as in preceding years. Each side will be provided with a ballooning section; the pioneer service will be carried out by the battalions of the 3 army corps, and 8 transport battalions will form the subsistence columns.

The following will be the troops employed:—

Blue Force.—IVth Army Corps (the 11th, 12th, and 41st Infantry Divisions).

Red Force.—The army group, the IIIrd Army Corps (5th and 6th Infantry Divisions), and the Vth Army Corps (9th and 10th Infantry Divisions). These divisions will have 2 brigades of 2 regiments of 3 battalions each; a regiment of light cavalry or Uhlans; a field artillery brigade of 2 regiments of 6 batteries each (the 42nd Regiment has a horse artillery brigade division of 3 batteries and the reduced effective); and 1 or 2 companies of pioneers.

The army group formed by the IIIrd and Vth Army Corps will be given the "A" Cavalry Division as usual; the "B" Cavalry Division will be given to the VIth Army Corps. The 2 forces are, as will be seen, unequal:—

Blue Force.—36 battalions, 15 squadrons, 36 batteries, including 3 light howitzer batteries, and a cavalry division of 30 squadrons, 2 batteries of 6 guns, and 2 ammunition wagons, 2 machine gun sub-divisions, and a pioneer detachment.

Red Force.—48 battalions, 20 squadrons, 48 batteries, including 6 light howitzer batteries, and the cavalry division similar to that of the Blue Force.

Altogether 84 battalions, 95 squadrons, 88 batteries and 4 machine gun sub-divisions will take part in the manœuvres. The 155th and 158th Infantry Regiments, which have only 2 battalions, will receive a third battalion of reservists.

As regards the terrain, the theatre of manœuvres is situated in the lower plain of North Germany, partially broken in the south by the ranges of the "Riesengebirge."

Other Manœuvres.

Five cavalry divisions, A, B, C, D, and E, will be formed in the IVth, Vth, VIth, VIIth, and Xth Army Corps, and will carry out special manœuvres: the A Division at Posen, the B Division on varied ground, the C, D, and E Divisions respectively in the Camps of Instruction at Alten-Grabow, Elsenborn, and Munster. Each division consists of 3 brigades of 2 regiments taken from various army corps; at the same time, 1 brigade of C Division is composed of 2 regiments belonging to different brigades. One horse artillery brigade division, 2 machine gun groups, and 1 pioneer detachment is attached to each of these divisions. The cavalry of the A and B Divisions will not take part in the brigade and division manœuvres of their army corps.

Staff rides will be carried out by the cavalry in the Guards Corps, and in the IVth, VIIth, IXth, Xth, XVth, XVIIth, and XVIIIth Army Corps.

Telegraph exercises, lasting for 3 days, will take place in the IVth and Xth Army Corps.

The XIIth Army Corps will carry out an attack exercise (*Angriffsübung*), for which it will be reinforced by the instruction battalion from the Foot Artillery School of Gunnery, by the necessary telegraph units and by a balloon section.

Grand Pioneer Manœuvres will be held on the Vistula, the Mulde, and the Elbe. Instructions regarding them will be issued by the Inspector-General of Pioneers.

The dismounted branches of the Service must be back in their garrisons by the 20th September, at the latest.—*Revue Militaire Suisse* and *Bulletin de la Presse et de la Bibliographie Militaires*.

RUSSIA.—Lessons of the War: Infantry Action.—The *Ruskii Invalid* continues its publication of the reports of the 35th Division on the lessons of the Russo-Japanese War. The following is a summary of what is said regarding infantry action:—

The method of infantry action in battle depends on the effects of its own and of artillery fire. Magazine rifles are all of about the same power. Rifle fire, however powerful it may become, does not suffice to destroy an enemy capable of repairing his losses and of renewing his efforts; success remains with that side which can the longest maintain its energy, and continues longest capable of striking. Numerical superiority at the decisive point, combined with an offensive spirit and tenacity, will always succeed, even at the cost of enormous losses. But it must be accompanied by an intelligent obstinacy, conscious of its power, of the excellence of the dispositions made, and of its opportunity. The bayonet has retained all its value; but its employment is not as frequent nowadays as in the past.

Distances and Nature of Fire.—The present rifle, if the supply of cartridges is sufficient, is capable of causing losses on large objectives at a range of 3,000 yards. Between 2,500 and 2,000 yards volley firing with fixed sights gives good results on extended formations, particularly as regards moral effect. At 1,500 yards independent firing will commence, as, in consequence of the efforts of both combatants to get under cover, there will no longer be any objectives for volley firing at that distance. Objectives are difficult to discern; when therefore they expose themselves, advantage should be taken of the fault as quickly as possible, use being made, if necessary, of magazine fire. From 1,500 yards only independent fire will be resorted to, varying in intensity according to the commands of the non-commissioned officers, or according to the personal initiative of the firers. Men should therefore be carefully trained in making great use of it. When an enemy's flank can be assailed, it invariably produces great disorder in the troops thus attacked. "When certain points in the enemy's position have been marked, it becomes possible to direct a hail of bullets on to them. This was the habitual practice of the Japanese infantry. As the distance decreases, objectives are better discerned, but jumpiness increases; it is then that the machine gun acquires enormous importance on account of the firmness of its gun-carriage. It mows down the assailants' lines and causes an immense moral effect.

The expenditure of ammunition is enormous. One of the regiments of the 35th Division, for instance, expended 1,920,730 cartridges between the 13th and 17th October. Its supply must be most carefully watched. Accuracy and rapidity of fire cannot be fully utilised except by means of a good service of observation, on account of the invisibility of formations. Skirmishers carry out this service along the front at a short distance. During the lulls in an action some observers should be left in each section, and use made of all favourable points, such as a tree, a house, etc., on the flank or rear, by placing there an observer provided with field glasses. "Only constant observation will enable one not to lose sight of the enemy, and to punish his smallest faults." Only such portions of the ground which completely escape the view of the enemy's observers can be regarded as sheltered. The best method to avoid losses is to be invisible; thus thinner formations are necessary. The greatest initiative must be allowed for the conduct of fire. Enormous expenditure of cartridges must be expected.

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Arrival in the Zone of Possible Action.—At 3, 4, or even 5 miles of the battle-field column of route is abandoned in order to take massed formations, appropriate to the existing cover, to avoid the enemy's observers. The column commander therefore proceeds to the commander of the troops already engaged, or himself reconnoitres in advance if there is no one in front of him. The troops, kept in close formation, cover themselves without delay along the front and flanks by advanced posts, so as to prevent the enemy's patrols from seeing, and to reconnoitre the ground and ensure connection with neighbouring troops. For the battalion and the regiment these posts consist of a section reinforced by 3 or 4 mounted scouts; they advance to a distance of $1\frac{1}{2}$ to 2 kilometres, entrench, organise a look-out, and link themselves together by means of patrols. These posts, reinforced if necessary, are most useful when deploying for action by forming *points d'appui*, when observation and connection are organised beforehand.

Entry into the Zone of Fire.—At 5,000 or 6,000 yards from the hostile artillery positions, battalions open out by companies, and the latter advance in line of sections by the flank, at 30 or 40 paces interval. Should natural cover exist, they are made use of without respect to distance or interval, excessive dispersion only being avoided. The advance is continued thus until the entry into the zone of rifle fire—about 2,000 yards in open country. The open spaces are traversed by sections, groups, or, if necessary, by men singly. All mounted officers should dismount, so as not to reveal the position of their men. Each company advances independently, without regard to alignment, halting preferably on positions which would be convenient for defence should the enemy take the offensive. On entering the zone of rifle fire, captains will advance to the front in order to reconnoitre their sector. As long as the ground is masked from the enemy's view the advance is continued in the same formation; if otherwise, companies deploy into lines of skirmishers. When the time for deployment arrives, the captain notifies the direction and the extent of the sector to his company, selects the sections for the skirmishing line, and sends two or three patrols on the line fixed for the deployment. "When these patrols signal that an advance is possible, the commander of the skirmishing line sends detached groups to the front. These groups conceal themselves whilst advancing, so that the enemy may not guess that a deployment is about to take place, and form up on the position at intervals of about 30 paces. They examine the front, select a convenient line of fire, and lie down. Section commanders deploy their sections under cover and immediately advance, either simultaneously, by groups, or man by man. Corporals mark the position of their squads; all corrections must be made lying down; the skirmishing line then detaches its observers, at the rate of one or two per section."

The Advance.—The advance is continued by the same method, whilst endeavouring to reach the distance of from 800 to 600 yards of the enemy without fatiguing the men, and avoiding rushes at racing speed as far as possible. As a rule opening fire from a new position does not commence until everyone has arrived there, so as to avoid drawing the fire of the enemy before the skirmishing line is in position. At short distances, under a hot fire and when the movement can no longer be carried out concealed from view, the men who have already rushed or crawled forward, immediately open magazine fire to protect the movement of the others. At 600 or 500 yards the cartridges are finally re-completed. Section commanders point out the position of the next halt, and the men gain the new position individually by running or

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crawling. "The squad commanders should only move after ascertaining that all their men are well to the front. The enemy's position is then assailed by a hail of the hottest fire, delivered from each of the halting positions of the skirmishing line; this fire is continued up to the closest range. The bayonet attack then becomes practicable. The skirmishing line becomes visible, it is true, but the nerves of the enemy under cover have become so shattered that he is no longer in a position to inflict losses." The assault is delivered when it has been sufficiently prepared for by gun and rifle fire, or when the units selected for acting on the flank are in a position to come into action. The fire is increased up to its maximum intensity, and the unengaged sections of the companies in the skirmishing line rejoin the latter, carrying them forward with them; the reserve companies come up as close as possible, and when between 50 and 60 paces from the enemy the men dash forward cheering.

After driving out the enemy the skirmishing line pursues with the bayonet for 100 or 200 yards, then halts and opens magazine fire on the fugitives. The reserve continues the offensive movement, one of its units occupying the position seized. A hail of shrapnel, carried out at the last moment, enfilading if possible and bearing, at the moment of the assault, on the ground immediately in rear of the hostile position, greatly facilitates the execution of the attack.

Lessons of the War: The Importance of the Rôle of the Officer in Infantry Action.—An article in the January number of the *Revue Militaire des Armées Etrangères* on "Infantry Fighting in the Russo-Japanese War," by Captain Soloviev, who commanded a company of the 34th Regiment of the 1st Siberian Army Corps, is of great interest, and especially so in the stress the author lays on the importance of the part played by the officer in infantry action. He says:—

"From the first rifle shot the centre of gravity shifts to the officer, and it is then that the enormous responsibility resting with him clearly manifests itself. The more painful the conditions of the action, the more desperate the fighting, the heavier the losses, so much the greater becomes the rôle of the officer. The result of the action of 200 men entirely depends on the company commander. The recent war may be called the war of company commanders. Every eye-witness of a battle will confirm my assertion. Soldiers observe their officers incessantly. It is on his discernment, on his energy, and on his personal bravery that their very existence depends. It is according to his attitude that the men judge of the danger, more or less, of the situation. The authority of the officer may rise to very great heights; but on the other hand, it may fall very low. The worst thing is to allow slackness or pusillanimity to appear; the company will soon get out of hand, and it can no longer be relied on to continue to advance with spirit.

"In action, more than ever, the officer should command, and the discipline should be one of iron. Nowhere does discipline assert itself more than in battle. Unfortunate indeed is the company which in peace time has not been imbued to the marrow with the spirit of discipline. In war it will pay dearly for it. I have observed that in the most critical moments an energetic exclamation, uttered in a peremptory tone, has a marvellously calming effect on the men. It is also a good thing to make such remarks as: 'Why, in such a section, are the sights not raised? Section commander, what are you thinking about? Correct it at once!' Because the commander is annoyed and notices omissions, everything must

be going on as it should, nothing particular is happening, there is nothing to be feared. The men become easy, they forget the whistling of the bullets, try to adjust their sights properly, and begin to take aim. The frequent changes which take place, on account of the necessity of providing fresh supplies, in both officers and men exercises a baneful effect in the *moral* of troops. Thus, on the 21st October, after the attack on the Tuminlin Hill there only remained 2 officers in the ranks of the 34th Regiment of Siberian Rifles, and after the affair at Sande-pu, after the corps of officers had been newly re-completed, only 4 or 5 officers. As regards the men, 40 per cent. were put out of action at Liao-yang, and 75 per cent. at Sande-pu. The regiment found itself reduced to 5 companies.

"With such enormous losses, the re-supply of officers and men, which was continually flowing in, never got to know one another. It was only by profiting by each lull in the operations that the company commander got to know his men and they got accustomed to him; but the first action once more changed the composition of the company like a kaleidoscope. The inevitable result of these perpetual changes was that the narrow band of responsibility was broken, even in the company sections. It therefore appears to me that it would be necessary to have stronger cadres in peace time, so that, even after considerable loss, there would still remain enough men in the ranks to form the backbone of the regiment."

What does the Russo-Japanese War teach us? The reply to this question is given by the *Militär-Wochenblatt* in conclusion to a series of articles entitled "Tactical Events of the Russo-Japanese War," and which especially deal with the rôle of infantry. The following is what the Journal in question says on the subject:—

"The Russo-Japanese War puts us particularly on our guard against an exaggeration of the importance of ground cover, and against the dread of delivering an attack—two things which threatened to become implanted in Armies after the events of the South African War. There is no law which sanctions the idea of the impossibility of carrying out an attack across an open plain. The opinion, according to which a frontal attack is impracticable in the face of modern weapons—an opinion so frequently maintained in England—is indefensible. There is, as a matter of fact, one thing superior to the power of fire; it is the desire to come to grips with the enemy.

"This was demonstrated by our troops in 1870, as well as by the Japanese during the late war. It is to that that we must constantly revert. The principles of our regulations have been amply vindicated by the war in Asia. At present the attack consists in throwing forward a line of skirmishers delivering a heavy fire. The method of doing so depends on each particular case. What is of special importance is to convince the soldier of this, viz.: losses are inevitable, and they must be borne up to a certain point; the marksman should not throw himself on to the ground before a projectile has first hit a man in the skirmishing line. The general watchword should be: 'Advance towards the enemy up to the range for efficacious fire.' This, however, is only possible if we do everything in our power to increase the authority of the officer over his men. The latter should remain under the command of their immediate chiefs as long as it is humanly possible.

"But the most efficacious fire itself should not be sufficient to turn a tenacious enemy out of his positions. Experience proves that the fire fight may be kept up for hours at a range of 400 yards. A courageous enemy does not yield except to an actual bayonet attack. The more he is convinced that he exposes himself to destruction if he rises and retires, if he abandons the position, the longer will he remain before yielding. We should not give up the bayonet attack in close order, for it constitutes, and will always constitute, the crowning of the edifice. In this regard there is always one primordial condition, viz. : that the men must have confidence in the *arme blanche*, and that they should be trained to bayonet fighting in peace time. This training forms the moral counterpoise to all improvements in fire-arms. I also openly assert that bayonet fighting should be more rationally and more frequently practised. The basis of success lies not merely in the training of a man as a marksman, but in the individual perfecting of all his faculties; that is to say, that equal importance should be attached to shooting, bayonet fighting, and to the use of the spade."—*Internationale Revue über die Gesamten Armeen und Flotten*.

CORRESPONDENCE.

THE TACTICAL EMPLOYMENT OF PACK ARTILLERY : A CRITICISM.

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—Major K. K. Knapp, R.G.A., in Vol. L., No. 836, JOURNAL of the Royal United Service Institution, published 15th February, 1906, in an article under the above heading, makes certain suggestions regarding "Pack" or "Mountain" Artillery, which appear open to criticism. This I venture to offer in a friendly spirit.

Major Knapp's suggestions are, briefly :—

1. One mountain battery should be added to each brigade of infantry, or in the case of an army corps of three divisions, two brigades of mountain artillery should belong to the corps artillery, and that, should this scheme be carried out, an equivalent amount of field artillery be withdrawn.
2. That the mountain batteries should be "Brigade" and not "Divisional" Artillery.
3. That the only brigade of horse artillery on the establishment of an army corps should be abolished, and replaced by a heavy artillery brigade.

1. As regards the first suggestion, Major Knapp, in his second paragraph, says :—"It would be unsound to advocate the use of mountain guns in places where wheeled artillery can be equally well employed, but there must be undoubtedly many occasions even in European warfare when pack artillery would be of value on account of its great mobility.

Batteries of guns carried on pack animals. . . . can easily negotiate hills, woods, broken or close country, which would be difficult, if not impassable to wheeled artillery, unless roads exist or passages have been previously prepared."

Few will cavil at the truth of the foregoing, but it is difficult to realise how the writer can reconcile the above with the suggestion that two brigades of mountain artillery should accompany an army corps on all occasions.

On fair roads and good country the traction power of any animal is of far greater value than his carrying power. The disappearance of the pack horse from England and most European countries exemplifies this. Artillery will therefore never be carried on the backs of men or animals if it can possibly be moved on wheels.

The difficult nature of ground in Afghanistan, the frontiers of India, and Manchuria, over which armies are at times forced to move, alone caused the necessity for "pack artillery." Under normal conditions of warfare in Europe, Africa, and India, wheeled artillery can accompany any force.

For fighting under *abnormal* conditions, pack artillery may be a necessity. Manchuria is without doubt a country in which pack artillery is very valuable; but even so, why should we cater in our *normal* establishments of an army corps for an *abnormal* state of affairs, and turn nearly 30 per cent. of our field artillery into "pack" artillery?

As regards the relative values of the gun, an army corps commander would hardly agree to exchange no less than thirty-six 18-pounder Q.F. field guns for a similar number of 10-pounder mountain guns, *unless* the nature of the country was so rugged that this loss of gun power was forced upon him.

The admission, therefore, of pack artillery into any force is entirely a question of the nature of the country. It exists where it is required, viz., on the Indian Frontier.

2. *As regards the suggestion that each infantry brigade should have a mountain battery belonging to it*, Major Knapp builds up his arguments on the statement that pack artillery is peculiarly suited to work with infantry—

- a. Because of its mobility.
- b. Because it can take more advantage of cover.
- c. Because it can support infantry more closely.

Concerning mobility, I disagree with Major Knapp's interpretation of the term mobility. A *mobile column* is usually taken to mean a column which can move rapidly. If field artillery can be taken into action, even at a walk, it must be preferable to the lighter equipment throwing a smaller projectile. To support infantry, flank marches may have to be made by artillery at a rapid rate, which mountain artillery could not do, unless the nature of the country is so rough as to prohibit the use of wheeled artillery. Therefore, one cannot agree with the statement: "*With the addition of batteries of pack artillery the necessity for the brigade of horse artillery (with an army corps) will cease to exist.*"

Concealment.—It is obvious that pack artillery can conceal themselves behind cover which would offer no concealment to wheeled artillery, before opening fire, such as low hedges, standing corn, and such like, but from a position behind a hill cover can usually be obtained by any nature of artillery. But when in action the pack artillery may find itself opposed to Q.F. field guns of far greater weight of metal and possessed of shields.

The contest would be most unequal and the result inevitable, viz., that the infantry would not get any support from their mountain guns, which must be silenced.

If, therefore, artillery desire to support infantry they must be prepared to face the fire of modern Q.F. field artillery, unless the nature of the country is such that wheeled artillery cannot be made use of.

The question of having the bulk of the artillery with an army corps "divisional," and not part and parcel of infantry brigades, has been settled, principally on account of the difficulty of ensuring combined action on the part of the guns when required. Under our present system, a battery or a brigade can always be attached to an infantry brigade, if required for any special purpose.

In operations against an enemy not possessed of artillery, no doubt, the permanent dispersion of artillery units is to be recommended.

For example (to quote from a report on the recent German South African campaign against the Hereros, where dispersion of artillery even by sections in stationary camps, on the march, or in action took place), we read: "*This dispersion is moreover without danger so long as the Hereros do not possess artillery.*" This points to the fact that other European Powers regard the *permanent* dispersion of artillery units with disfavour.

3. Major Knapp's proposal to abolish the only brigade of horse artillery with an army corps has been touched upon under the remarks on "Mobility." The addition of a brigade of heavy artillery would in no way compensate for the loss of this mobile unit. Nor does his consideration contained at the end of his sixth paragraph clear up the situation: "*It is a matter for consideration whether it would not be advisable to add a second (horse artillery) brigade to the strength of a division of cavalry.*"

Now, to saddle a cavalry division with two brigades of horse artillery permanently would, in these days of Q.F. batteries and consequent increase in ammunition wagons, considerably hamper the free movement of the division, and cause its commander much anxiety. Under existing conditions the horse artillery with a cavalry brigade can be augmented by attaching to it horse artillery from the corps artillery; but it is thought that such augmentation would only be desirable to meet special purposes.

Tactical Employment.—As regards the tactical employment of "pack" or mountain artillery, it would appear (from Major Knapp's quotations from "Combined Training") that the same broad principles which govern the employment of wheeled artillery, apply equally to pack artillery.

To conclude, I entirely agree with Major Knapp that a mountain artillery unit (or units) should be maintained at home for use with an expeditionary force, if called upon to operate in a country necessitating the employment of pack artillery; but I strongly deprecate turning any portion of the Q.F. field artillery allotted to an army corps into pack artillery or substituting a brigade of heavy artillery for the brigade of horse artillery with the corps artillery. Finally, I consider that "Combined Training" deals sufficiently with the tactical employment of artillery in the field, whether it is pack or wheeled artillery.

J. G. GEDDES, Major, R.F.A.

Hilsea, *

March 8th, 1906.

NAVAL AND MILITARY CALENDAR.

APRIL, 1906.

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- 3rd (T.) H.M.S. "Katoomba" arrived at Portsmouth from Australia.
- 4th (W.) 1st Bn. Duke of Cornwall's Light Infantry arrived in England from South Africa in the "Soudan."
- 5th (Th.) H.B.H. the Princess Royal presented a new Standard to the 7th (Princess Royal's) Dragoon Guards, at Canterbury.
- " " Intelligence received from Natal that rebellious natives, under Bambaata, came into collision with the British.
- 6th (F.) British force moved from Greytown, Natal, against the rebel chief Bambaata.
- " " H.M.S. "Donegal" arrived at Plymouth.
- 7th (Sat.) Bambaata escaped over the border into Zululand.
- " " The Morocco Conference terminated, the Acte Général being signed.
- 9th (M.) H.M.S. "Bonaventure" arrived at Plymouth from China.
- " " Launch of Japanese first-class armoured cruiser "Ikoma" from Imperial Dockyard at Kure.
- " " Launch of first-class armoured cruiser "Ernest Renan" from Penhoet Yard, St. Nazaire, for French Navy.
- 10th (T.) H.M.S. "Donegal" paid off at Devonport.
- " " H.M.S. "Monmouth" commissioned at Devonport.
- " " H.M.S. "Wallaroo" paid off at Devonport.
- 11th (W.) H.M.S. "Hogue" arrived at Plymouth from China.
- 12th (Th.) H.M.S. "Monmouth" left Plymouth for China.
- 17th (T.) Torpedo-boat No. 84 sunk off Malta during manœuvres by destroyer "Ardent." Crew saved.
- 20th (F.) H.M.S. "Hyacinth" paid off at Devonport from East Indies
- 26th (Th.) H.M. the King of Spain inspected the 1st Bn. Royal Fusiliers at Parkhurst, Isle of Wight.
- 27th (M.) H.M.S. "Queen" arrived at Portsmouth from Mediterranean.
- 28th (Sat.) H.M.S. "Sutlej" arrived at Spithead from China.
- 30th (M.) 1st Bn. Lancashire Fusiliers left Malta for Egypt in the "City of Athens."
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FOREIGN PERIODICALS.

NAVAL

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: January and February, 1906.—"Lieutenant-General Bartolomé Mitre: Obituary Notice." "The Naval Battle, 10th August, 1904: A Study on Naval Tactics." "The Accuracy of the Sextant in Estimating Distances." "Rules for Conducting the War Game." "A Great Misfortune." "The Theory and Practice of Steam Generation." "The Navy in History." "Naval Armaments."

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 5. Pola : May, 1906.—“The Reform in the English Navy, 1903-5.” “A Contribution to the Armament Question of Battle-ships and Armoured Cruisers.” “Proposals for the Extension of the Simon System of Night Signals for the Mercantile Marine.” “Double-ended Water-tube Boilers.” “A Petroleum Motor Torpedo-boat.” “An Apparatus for Determining the true Direction and Speed of the Wind.”

BRAZIL.—*Revista Maritima Brasileira*. Rio de Janeiro : January, 1906.—“A Catastrophe.” “The ‘Aquidaban.’” “Obituary Notices of the Officers Lost.” “Foreign Sympathy.”

CHILI.—*Revista de Marina*. Valparaiso.—Has not been received.

FRANCE.—*Revue Maritime*. Paris : March, 1906.—Has not been received.

Questions Navales : Revue Générale de la Marine. Paris : 25th March, 1906.—“The Officers of our Mercantile Marine.” “The Navy Budget in the Chamber.” “A propos of the ‘Henri IV.’” “The Isoscope.”

La Marine Française. Paris : March-April, 1906.—“The Truth about the Naval Programme.” “The Workman in the Naval Dockyards: The Economic Point of View: The Directing Personnel: The Syndicates.” “The Recruiting for the Navy and Two Years’ Service: Report to the Minister of Marine :—

1. Historical and General Considerations on the Obligatory Period of Active Service in the Fleet;
2. The Necessity for a Special Law;
3. The Impossibility of assuring under Normal Conditions with Two Years’ Service of the Preparation, Formation, and Training of the Crews;
4. Needs of the Personnel : Increase in the Necessary Effectives : Supply from the *Inscription Maritime* more and more insufficient;
5. The Limits within which the Needs—in Personnel—of the Fleet can be assured by the Two Years’ Service.”

Le Yacht. Paris : 7th April, 1906.—“Some Reflections on the Lot of our Fishermen.” “Yachting Notes.” “The Japanese Battle-ship ‘Kashima.’” “Sea Art Exhibition.” 14th April.—“The Naval Budget in the Senate.” “Yachting Notes.” “The New German First-class Armoured Cruiser ‘Scharnhorst.’” “The Meissour Screw.” 21st April.—“The Displacement of Racing Yachts.” “Yachting Notes.” “The Merchant Marine Act.” “The Action of the Automobile Torpedo.” “The New Trans-Atlantic Mail Steamer ‘La Provence.’” 28th April.—“The Turbine Question.” “Yachting Notes.” “The New English Submarines.” “The Netherlands Battle-ship ‘Tromp.’”

Le Moniteur de la Flotte. Paris : 7th April, 1906.—“A propos of the ‘Dreadnought.’” “The Superior Council of National Defence.” “The Navy in Parliament.” “The Loss of the ‘Sully.’” 14th April.—

"The Report of M. Cuvinot on the Naval Budget." "The Naval Estimates in Parliament." "The Embarkation and Disembarkation of the Personnel of the Fleet." 21st April.—"A propos of Wireless Telegraphy." "The Navy in Parliament." 28th April.—"Destroyers and Scouts." "The German Naval Estimates." "The Explosion on Board the Couronne."

GERMANY.—*Marine Rundschau*. Berlin: May, 1906.—"The Fighting Instructions of the English Fleet and the Sea Fights of the 18th Century." "Railway Construction and Railway Construction Policy in China." "The Battle in the Japanese Sea, 27th-28th May, 1906." "Turbine Engines for Torpedo-boats." "The French Naval Estimates before Parliament." "The Spring Meeting of the Institution of Naval Architects, 4th-6th April, 1906."

ITALY.—*Rivista Marittima*. Rome: April, 1906.—"On the Opening of the Simplon Tunnel." "Calculation of Muzzle Velocities by means of Impulsometers." "The Art of War from Alexander to Oyama." "The Mathematics of Tumble-home Sides and Curved Decks."

PORTUGAL.—*Revista Portuguesa, Colonial e Maritima*. Lisbon: March, 1906.—"The Lighting and Buoying of the Bay of Lourenço Marques." "A Japanese Embassy to Europe in the 16th Century" (concluded). "The Propaganda of the German Colonial Society." "Importance of the Portuguese Colonial Products in Germany." "The Colonial Movement."

Annaes do Club Militar Naval. Lisbon: February, 1906.—"On Turbines." "On Compass Deflectors." "A Study on External Ballistics." "A Practical Expedient for the Improvement of Aiming."

SPAIN.—*Revista General de Marina*. Madrid: April, 1906.—"The Economical Industrial Organisation of the Dockyards." "The Submarines "Holland" and "Lake." "The Grand Manœuvres of the English Fleet." "A Sanitary Report." "The Measurement of High-Frequency Currents and Electric Waves" (continued). "The Influence of Age on the Capacity of the Senior Officers of a Navy" (concluded). "A Note on the Firing Practice of Heavy and Siege Artillery at the Camp of Carabanchei." "The Blockade of Port Arthur from its Naval Aspect." "Lessons?" "The Zeiss Stereoscopic Range-Finder." "Explosion Motors and Electricity." "The New Beadmore Guns."

MILITARY.

ARGENTINE-REPUBLIC.—*Revista del Boletín Militar del Ministerio de Guerra*. Buenos Aires: January, 1906.—Has not been received.

AUSTRIA-HUNGARY.—*Danzer's Armee-Zeitung*. Vienna: 5th April, 1906.—"On the Practical Training of our Cadets." "Honorary Rank in the Regular Army." "Military Ballooning in the Last War." "From the German Army." 12th April.—"Promotion." "What Lessons can

be drawn, with regard to the Infantry Attack, from information received up to date on the Russo-Japanese War?" (*continued*). 19th April.—"1846-1906." "The Custom House." "Recollections of Voyages." "Aphorisms." 26th April.—"The Hungarian Military Press." "Practice-Firing Apparatus for Infantry." "Individual Works on the Russo-Japanese War." "Corrections in Praise of Turkish Military History."

Mittheilungen über Gegenstände des Artillerie- und Genie Wesens. Vienna: April, 1906.—"On the Rational Execution of Artillery Gunnery Practices." "Contributions to the Study of the Battles round Port Arthur." "On the Statistics of Thunder-claps."

Die Militarische Welt. Vienna: 6th April, 1906.—"Introductory Preface." "The First Attempt at a General Revolution in Hungary and Vienna." "Standing Garrisons in Italy." "War-dogs when in front of the Enemy." "The Emperor William on the Bayonet." "Cavalry in the last War." "The Military Forces of Montenegro, Servia, and Roumania." "Pioneer Troops." "Notes of a Sister of Charity." "War Episodes from Manchuria." "Military Intelligence."

Organ der Militär-wissenschaftlichen Vereine. Vienna. Vol. LXXII. Parts 3 and 4. 1906.—"Physical and Moral Qualities in the South African War, 1899-1902." "The Question of Clothing and Equipment for Field Service." "On the Tactical Training of Infantry and Lessons from the Russo-Japanese War." "Field Engineering in the War in the Far East."

Strefleurs Oesterreichische Militarische Zeitschrift. Vienna: April, 1906.—"Attempted Psychological Study of a People's War." "Experimental Shooting at Army Musketry Schools in 1905." "Wireless Telegraphy." "Thoughts about our Weapons." "The Italian Cavalry, Artillery, and Engineers." "The Russo-Japanese War" (*continued*). "Progress in Foreign Armies, 1905." "On Clothing and Equipment in the Field." "Intelligence from Foreign Armies."

BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires.* Brussels: 31st March, 1906.—"Landings" (*concluded*). "The Battle of Tsu-Shima and the Naval Lessons of the Russo-Japanese War" (*continued*).

15th April, 1906.—"The Battle of Tsu-Shima and the Naval Lessons of the Russo-Japanese War" (*concluded*). "The Q.F. Gun and Artillery Training." "The Russo-Japanese War" (*continued*). 30th April.—Has not been received.

FRANCE.—*Revue du Cercle Militaire.* Paris: 7th April, 1906. —"Study of Military Legislation." "General Causes of Russian Defeats" (*continued*). "Military Legislation in the Italian Parliament." "The German Infantry Attack in 1902" (*continued*). 14th April.—"Regimental Lectures on Reciprocity." "General Causes of Russian Defeats" (*concluded*). "Study of Military Legislation" (*continued*). "The German Infantry Attack in 1902" (*continued*). 21st and 28th April.—Have not been received.

Revue Militaire des Armées Etrangères. Paris: April, 1906.—"Renewal of Field Artillery Matériel in Foreign Armies." "Military Reorganisation of China" (*continued*). "The Italian Grand Manœuvres of 1905."

Le Spectateur Militaire. Paris: 1st April, 1906.—“Recruiting and Promotion of Officers.” “Personal Recollections of Verdy du Vernois, 1870-71” (continued). “The Russo-Turkish Campaign of 1877-78” (continued). “The Dangers of Firing with Blank Cartridges” (translation from the German). 15th April.—“Recruiting and Promotion of Officers” (continued). “Personal Recollections of Verdy du Vernois, 1870-71” (continued). “The Russo-Turkish Campaign of 1877-78” (continued). “The Dangers of Firing with Blank Cartridges” (continued).

Revue de Cavalerie. Paris: March, 1906. — “Letters of an Old Cavalryman.” “School of Grouped Cavalrymen.” “The Short Period of Service and Cavalry Preparation for War” (concluded). “Tactics of Heavy Mobile Artillery.”

April, 1906.—Has not been received.

Revue d'Artillerie. Paris: February, 1906. — “Goniometre and Battery Telescope.” “War Game applied to Coast Gunnery.” “United States Rifle, Model 1903.”

March and April, 1906.—Have not been received.

Revue du Génie Militaire. Paris: March, 1906.—“The Siege of Port Arthur.” “Military Telegraphy in the Russo-Japanese War.” “Instantaneous Metallic Fascine Revetment.”

April, 1906.—“The Siege of Port Arthur” (Appendix). “Note on the Accommodation for Married Non-commissioned Officers in a Barrack in the East of France.” “Description of a Screen for Closing a Balloon Shed.”

Revue du Service de l'Intendance Militaire. Paris: March, 1906.—“Study of the Water Supply of the Town of Aumale.” “Methods for the Checking of Army Accounts” (continued). “Analysis of Cereal Food-Stuffs.” “Notes on the Norman Prairies.” “Changes Introduced into the Uniform of the Army.”

April, 1906.—Has not been received.

La Revue d'Infanterie. Paris: April, 1906.—“The 1905 Grand Manœuvres.” “Critical Study of the English Regulations for the Three Arms” (continued). “Investigations for the Lightening of the Infantryman's Load and for the Improvement of his Field Rations.” “Infantry Musketry Instructions of the 2nd November, 1905.”

Journal des Sciences Militaires. April, 1906.—Has not been received.

Revue d'Histoire. April, 1906.—Has not been received.

GERMANY.—*Militär Wochenblatt.* Berlin: 3rd April, 1906.—“On the Training and Development of Field Artillery.” “A Simple, Practical Method of Training for Bayonet Fighting.” “From the Peruvian Army.” 5th April.—“Wireless Telegraphy during War and Neutrality.” “Considerations on a March in Force by a French Cavalry Division.” “The Drill Regulations” (concluded). 7th April.—“The Siberian Railway in the Russo-Japanese War.” “A New Military Organisation of the Swiss Military Defence Forces.” “Wireless Telegraphy during War and Neutrality” (concluded). 10th April.—“On the Insurrectionary Movement in German West Africa from August to November, 1905.” “Field Artillery Re-armament in Belgium.” “New Battle Regulations for the Bulgarian Infantry.” 12th April.—“On the Insurrectionary Movement in German West Africa from August to November, 1905” (continued).

"Collection." 14th April.—"Napoleon and England." "On the Insurrectionary Movement in German West Africa from August to November, 1905" (concluded). "Remarks on Shelter Trenches." 19th April.—"The Defence and Explanation." "Grazing Shot in Artillery Action." 21st April.—"Karl Reisner, Freiherr von Lichtenstern." "The Japanese Method of Attack." "Riding in the Field Artillery." 24th April.—"Artillery Tactics." "From the Annual Report of the Inspector-General of the United States Army." "Intelligence from the Belgian Army." 26th April.—"Intelligence from the Russian Army." "Artillery Tactics" (concluded). 28th April.—The Russian Infantry General von Woyde, and his Works." "The New Edition of Lieut.-General Rohne's Musketry Lessons." "Intelligence of the Austro-Hungarian Forces."

Internationale Revue über die gesamten Armeen und Flotten. Dresden: April, 1906.—"Military and Naval Intelligence from Austria-Hungary, Brazil, Bulgaria, Chili, Denmark, France, Germany, Great Britain, Greece, Holland, Italy, Japan, Roumania, Russia, Switzerland, Turkey, and the United States." Supplement 73.—"Experiences of the Russo-Japanese War." French Supplement 85.—"Evolution towards a Single Type of Projectile." "Artillery Action against Captive Balloons." "The "Dreadnought." "Musketry Trials and Experiments."

Neue Militärische Blätter. Berlin: February, 1906. Nos. 7 and 8.—"A Hitherto Missing Link in the History of Naval Tactics" "Medical War Game in Austria-Hungary." "The Manufacture of a Rifle." "Artillery War Experiences in the Far East." "French Expert Opinion on the Lessons of the Naval War in the Far East." "Chronicle of Events in Venezuela." "Military Intelligence."

March, 1906. No. 9.—"Organisation of the English Railway Department." "A Hitherto Missing Link in the History of Naval Tactics" (continued). "The Manufacture of a Rifle" (continued). "Chronicle of Events in the Caucasus." "Chronicle of Events in Venezuela" (continued). "Military Intelligence." No. 10.—"The English Naval Manœuvres." "Cavalry in the War in the Far East." "A Hitherto Missing Link in the History of Naval Tactics" (continued). "The Returning Russian Army." "The Manufacture of a Rifle" (concluded). "Heavy Field Howitzers in France." "Chronicle of Events in the Caucasus" (continued). "Chronicle of Events in Venezuela" (continued). "General Hagenan's Long-distance Ride." "Military Intelligence." No. 11.—"The Performances of the '98 Rifle with the 'S' Ammunition." "A Contribution to the Training of Officers and Candidate Officers on Leave of Absence." "A New Austrian Field Gun." "Foreign Opinions on the German Corps of Non-commissioned Officers." "Chronicle of Events in the Caucasus" (continued). "Chronicle of Events in Venezuela" (continued). "The Kaiser on the Bayonet." "Proposals with regard to Security Observations." "Military Intelligence." Nos. 12 and 13.—"What can the German Dockyards Accomplish?" "Broadening or Deepening of the Suez Canal." "A New Gun for the French Horse Artillery." "A Hitherto Missing Link in the History of Naval Tactics" (concluded). "The English Naval Manœuvres" (continued). "The Re-armament of the German Field Artillery." "The Performance of the '98 Rifle with the 'S' Ammunition" (continued). "The Fortifications of Greece." "Chronicle of Events in the Caucasus" (continued). "Raising of the Ships at Port Arthur." "Military Intelligence."

April, 1906. No. 14.—“The Performance of the '98 Rifle with the ‘S’ Ammunition” (concluded). “The English Naval Manœuvres” (concluded). “What can the German Dockyards Accomplish?” (concluded). “Retrospect of the Changes of Construction of the Artillery Protection Shields.” “English Army Questions.” “Military Intelligence.”

Jahrbücher für die Deutsche Armee und Marine. Berlin: April, 1906. —“On the History of our Drill Regulations.” “Fortifying the Terrain during the Battle.” “On the Campaign of Marengo.” “Is the Army a National School?” “The Relations between large and small Lords of the Manor.” “Changes in the Infantry Training Regulations.” “The Russian Field Gun.”

ITALY.—*Rivista di Artiglieria e Genio.* Rome: February, 1906.—“The Efficacy of Shrapnel Fire.” “Power or Mobility.” “The Russo-Japanese War, 1905” (continued). “Large Reservoir of Armoured Cement for the Military Hospital at Rome.” “Inauguration of the Museum of Italian Military Engineering at the Castle of St. Angelo, Rome.”

March, 1906.—“The First Writer on the Utilisation of Natural Forces by means of Electricity and Electric Traction.” “Application of the Laws of Ratio.” “Spring Wheels.” “The Russo-Japanese War, 1905” (concluded).

April, 1906.—Has not been received.

Rivista Militare Italiana. Rome: April, 1906.—“To our Readers.” “The Programme of the ‘Rivista.’” “Military Questions: A Single Military School.” “Further Remarks on the Regulations for the Fire and Tactics of Horse and Field Artillery.” “The Propaganda against Military Institutions.” “Cyclists, Automobilists, and ‘Bersaglieri.’” “Defensive Tactics on the Alps.” “The Struggle of the Races of Mankind.” “Some Observations on the Problem of the Non-commissioned Officers.”

MEXICO.—*Revista del Ejercito y Marina.* Mexico: February-March, 1906.—Has not been received.

PORTUGAL.—*Revista de Engenharia Militar.* Lisbon: January, 1906.—Has not been received.

Revista Militar. Lisbon: January, 1906.—“Tactics to be Employed against the Native Races of Angola.” “The Naval Battle of Tsushima.” “Portuguese Topographical Regulations.” “Tactical Problems.”

February, 1906.—“Morocco.” “The Initiative of the Commanders of Troops.” “The Value and Quality of Machine Guns in Action.” “Some Considerations on the Naval Battle of Tsushima.”

March and April, 1906.—Have not been received.

Revista de Infanteria. Lisbon: April, 1906.—“The Evolution of Infantry Tactics.” “Europeans in Oversea Lands.” “The Infantry Arm.” “Tactical Problems.” “Pan-Germanism and the Military Alliance of the Latin Powers.”

RUSSIA.—*Voennyi Sbornik*. St. Petersburg: April, 1906.—Has not been received.

SPAIN.—*Memorial de Ingenieros del Ejército*. Madrid: March, 1906.—“Some Observations on the Formulas which Determine the Depth of the Moorish Wells” (*concluded*). “A Universal Commutator.” “The Russo-Japanese War: Line of Communications of the 2nd Japanese Army Corps.”

April, 1906.—Has not been received.

Revista Técnica de Infantería y Caballería. Madrid: 1st April, 1906.—“General the Marquis de la Romana” (*concluded*). “The Battle of El Caney.” “The Cavalry and Musketry Instruction.” “The Officer Instructor” (*continued*). “The Machine Gun with Cavalry” (*continued*). “The Island of Tenerife” (*continued*). “The German and French Fleets.”

Revista Científico-Militar y Biblioteca Militar. Barcelona: April, 1906.—“The Algeciras Conference.” “Uniformity in Machine Guns.” “Lamentations.” “Some Observations on the Last War” (*continued*).

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne: April, 1906.—“Some Observations on the Manœuvres of 1905.” “Reform in the Infantry Equipment and Clothing.” “Musketry Instruction in the German Army.” “Shrapnel and Shields.”

UNITED STATES.—*Journal of the United States Artillery*. Fort Monroe, Va.: January-February, 1906.—“Needs of the Coast Artillery.” “Primers and Fuses for Cannon.” “Contribution to Interior Ballistics.” “Method of Instructing Coast Artillerymen preparatory to Gunners' Examination.” “Proposed System of Range-Finding.” “Professional Notes.” “Book Reviews.”

March-April, 1906.—Has not been received.

Army and Navy Life. New York: April, 1906.—“Lieut.-General J. C. Bates.” “Nation's Monuments on Cuban Battle-fields.” “Making Wireless Experts.” “The Tale of a Ship's Goat.” “Twixt Reveillé and Taps.” “How to Fight a Moro.” “Editorial.” “Information Operator.” “The Soldiers of Canada.” “New York's Coast Artillery Regiment.” “The New Battle-ship ‘Connecticut.’” “The Army and Sports.” “The Profits of the Post Exchange.”

Journal of the U.S. Cavalry Association. Fort Leavenworth, Kansas: April, 1906.—“Report of the Cavalry Board on Bits.” “County Fair Cavalry.” “Organisation of Philippine Scouts.” “Cavalry Equipment.” “Regulations for Machine Guns.” “Army Co-operative Fire Association.” “Indirect Fire.” “The Signal Corps with Cavalry.” “Problems.” “Special Class at Fort Riley.” “Reprints and Translations.” “Military Notes.”

NOTICES OF BOOKS.

Wellington's Operations in the Peninsula, 1808-1814. By Captain LEWIS BUTLER, late King's Royal Rifle Corps. London: Fisher Unwin.

The literature on the subject of the Peninsular War has recently been very largely added to, if it cannot, perhaps, in all cases be said to have been appreciably enriched, but there can be no doubt that the increased attention now paid in Army examinations to a study of the lessons to be derived from Wellington's campaigns, has induced a number of military writers to give us something shorter, less bulky, and less detailed than Napier's matchless work. Captain Butler has produced two very carefully written volumes, and has not failed to avail himself of the descriptions, opinions, and criticisms of earlier historians, where these are necessary to illustrate his narrative or to support his contentions. Frequently, too, does the author draw comparisons between the conduct of the British Government of those days—in relation to military affairs—with that whose term of office has recently closed, and compares, too, the conduct of the operations of Peninsular and South African commanders; whether the frequent introduction of such matter into a mere history of a particular campaign is either necessary or welcome is entirely a matter of individual opinion. More interesting is the comparison, ably drawn by Captain Butler, of the attitude of the different Governments—French, British, Spanish, and Portuguese—towards the commanders of the armies in the field, and in this, as in other particulars, the author does no less than justice to Napoleon in pointing out the support he invariably extended to his not especially successful generals and to the armies which fought under them.

A good deal of new matter seems to have been introduced into these two volumes, especially in the way of "returns" or "states," some of which do not seem to have appeared before; but, indeed, Captain Butler would seem to have not only made a feature of giving whenever possible the numbers present, but has been at great pains to verify their correctness. A weak point about these volumes is in the maps, which are hardly sufficiently clear; in the two volumes there is but one map of the Peninsula, and that on a very small scale: the value of the next edition of this work would be very greatly enhanced by better, clearer, and larger maps and plans. To the military genius of Sir John Moore ample justice is done by Captain Butler, and posterity has long since recognised that the issue of the campaigns so successfully conducted by Sir Arthur Wellesley might perhaps equally safely have been left in the capable hands of Sir John Moore.

More than once in these volumes Captain Butler raises the question whether we might not with advantage have made peace with Napoleon, and especially before he embarked upon his Russian campaign, and the closing words of this important contribution to military education contain matter for an interesting study—"whether our policy of hunting Napoleon to death was that most conducive to the interests of our country; or whether statesmanship might not have found a means by which we could have gone hand in hand on the path of civilisation and progress with the most sagacious and far-seeing genius which the earth has seen, and by so doing have solved in their infancy some of those problems which, after the lapse of a century, weigh so heavily upon us."

The Russo-Turkish War, 1877. By Major F. MAURICE, The Sherwood Foresters. London: Swan Sonnenschein & Co.

This is the second volume of the "Special Campaign" series which is now being brought out by the above enterprising firm of publishers in order to meet the requirements of military examinations. The book does not pretend to be in any way a comprehensive history of the war waged now nearly thirty years ago between the Tartar and the Turk, but is a strategical sketch of the more decisive portion of the operations in Europe only. Major Maurice has made an exhaustive study of his subject; he marshals his facts with much ability, while he lays due emphasis upon the lessons, both of omission and of commission, that may be learnt from a war fought in a portion of Europe which is not only "still of the greatest political interest, but which bids fair to take upon itself the old title of the Low Countries as 'the cockpit of Europe.'" The volume practically divides itself into an account of the passage of the Danube, the fighting about the Shipka, and the siege of Plevna; and although it cannot be said that the rest of the campaign disclosed anything of corresponding interest or importance, still one may wish that the matter contained in the last few pages could have been the least thing expanded. Major Maurice's comments are excellent, his explanations clear and convincing, his description of the duties and limitations of a commander and of troops making a "containing" or "holding" attack is very good indeed, and the book should be of real service to the military student, for whom it is primarily intended. There are three clear large-scale maps in a pocket at the end; the map of Plevna and neighbourhood is especially good, and the letters and numerals placed on the different positions assist greatly to a proper understanding of the fighting round the little Bulgarian village, the occupation of which came so near to wrecking the whole Russian plan of campaign.

PRINCIPAL ADDITIONS TO LIBRARY, APRIL, 1906.

Marine Française et Marine Etrangères. By Captain L. ABEILLE. 8vo. 2s. 8d. (Armand Colin.) Paris, 1906.

Tactique D'Artillerie—Le Canon à Tir Rapide dans la Bataille. By Captain F. CULMANN. 8vo. 6s. (Henri Charles-Lavauzelle.) Paris, 1906.

Historical Records of the King's Liverpool Regiment of Foot. 3rd Edition. 8vo. (Presented.) Enniskillen, 1904.

Das Angriffs-Verfahren der Japaner im Ostasiatischen Kriege, 1904-05. By FREIHERR VON LÜTTWITZ. 8vo. 3s. (E. S. Mittler & Sohn.) Berlin, 1906.

The Cambridge Modern History. Vol IX.: Napoleon. 8vo. (University Press.) Cambridge, 1906.

The Countries of the King's Award. By Colonel Sir T. H. HOLDICH. 8vo. 16s. (Hursh & Blackett, Ltd.) London, 1904.

Règlement de Manœuvre de l'Artillerie de Montagne. 2 Parts. Official. 8vo. 2s. 8d. (Henri Charles-Lavauzelle.) Paris, 1906.

- The Burma Route Book.* Part III. : *Routes in Western Burma.* Compiled in the Intelligence Branch Q.M.G.'s Department in India. F^cap. folio. (Presented.) Calcutta, 1905.
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- Les Leçons de la Guerre—Port Arthur—Tsou-Shima—Ce qu'il faut à la Marine.* By Vice-Admiral DE CUVERVILLE. Crown 8vo. 2s. 3d. (Berger-Levrault et Cie.) Paris, 1906.
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- Der Russisch-Japanische Krieg.* By IMMANUEL. 8vo. (Presented.) (R. Schröder.) Berlin, 1904-6.
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